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AlphaEclipse 2500/2600/3500 Sign Installation Manual

(For the most recent update, go to http://www.adaptivedisplays.com/support/eclipse)

STEP 1: **Read Safety section before starting, see page 4.**

STEP 2: **Mechanical installation, see page 14.**

STEP 3: **How many signs are installed?**

ONE SIGN
- Go to STEP 4.

TWO OR MORE SIGNS

STEP 3a: **Must all signs display the *same* message at the *same* time?**

YES

All signs must be the same size.

- Use Master/Slave sign-to-sign connection, see page 27. Then go to STEP 4.

NO
- Use Master/Master sign-to-sign connection, see page 26. Then go to STEP 4.

STEP 4: **How will messages be sent from a computer to the sign(s)?**

Method	Directions
CONVERTER BOX III (RS485)	• See page 29. Then go to STEP 5.
FIBER OPTIC	• See page 30. Then go to STEP 5.
ETHERNET	• See page 31. Then go to STEP 5.
EXTERNAL CONNECTION BOX	• For an RS232 connection, see page 32. Then go to STEP 5. • For an RS485 connection, see page 33. Then go to STEP 5.
MODEM	• See page 34. Then go to STEP 5.
WIRELESS	• For a Locus transceiver, see page 35. Then go to STEP 5. • For an Alpha RF900 transceiver, see page 36. Then go to STEP 5. • For a MaxStream XTend 900MHz Transceiver, see page 37. Then go to STEP 5.

STEP 5: **Electrical installation, page 21.**

STEP 6: **Use AlphaNET v2.0.3 or greater software to send messages to the sign(s)**

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Introduction

Revision history

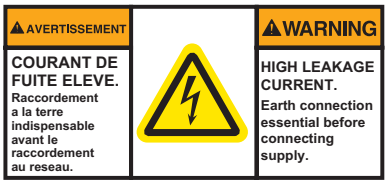
Revision	Date	Notes
9711-6024	June 21, 2004	First Release. This manual replaces the “AlphaEclipse 2500/2600 sign Installation manual” (9711-7001) and the “AlphaEclipse 3500 Sign Installation manual” (9711-6015).
9711-6024A	June 30, 2005	Information on TEMP/SYNC wiring was corrected and MaxStream XTend transceiver was added. Also, information on not using GFI-protected outlets was added.

Related documentation

Part #	Manual title	Description
9707-1004	How to use the IR Message Loader to Display Messages on AlphaEclipse Signs	Shows how to create messages, transfer messages to an IR Message Loader, connect the loader to a sign, and then send the message from the loader to the sign.
9708-8081	AlphaNET Version 3.0 User Manual	Explains the software used to create and send messages to the sign
9711-6016	AlphaEclipse Signs Master/Slave configuration	Explains how to connect a Master and a Slave AlphaEclipse 2500, 2600, or 3500 signs.
9711-6017	AlphaEclipse Master/Master Configuration	Explains how to connect two Master AlphaEclipse 2500, 2600, and 3500 signs.
9711-6023	Troubleshooting Guide for AlphaEclipse 2500, 2600, and 3500 Signs	Provides comprehensive troubleshooting information on serial, wireless, and modem communication for AlphaEclipse 2500, 2600, and 3500 signs.
TechMemo #00-0005	Preventing Electrostatic Discharge (ESD) Damage	Explains the dangers associated with electrostatic discharge damage and how it can be prevented by following static control procedures.
TechMemo #01-0011	US Robotics 56k modem setup for AlphaEclipse and Alpha signs	Explains how to set up US Robotics V.90 and V.92 56k fax/modem.
TechMemo #02-0006	Cleaning AlphaEclipse 1500, 2500, 2600, and 3500 outdoor LED signs	Describes how to clean the exterior of AlphaEclipse 1500, 2500, 2600, and 3500 outdoor LED signs.

Safety

Warnings and cautions


AVERTISSEMENT
COURANT DE FUITE ELEVE.
Raccordement a la terre indispensable avant le raccordement au reseau.
WARNING
HIGH LEAKAGE CURRENT.
Earth connection essential before connecting supply.

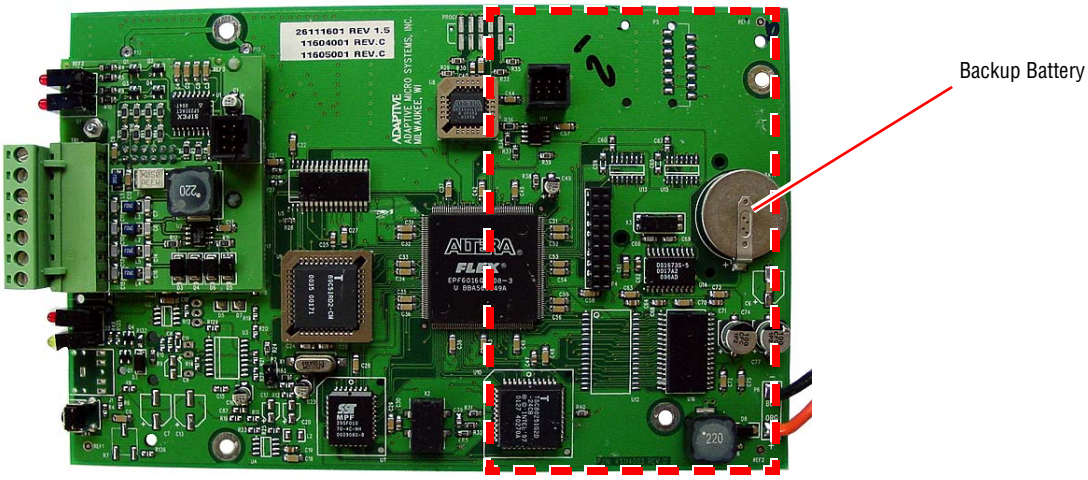
WARNING
Hazardous voltage.
Contact with high voltage may cause death or serious injury.
Always disconnect power to unit prior to servicing.

Other warnings and cautions are posted in appropriate locations throughout this manual.

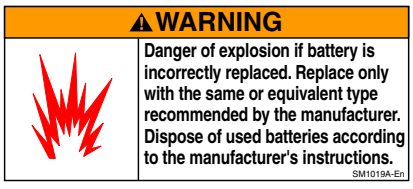
Battery backup

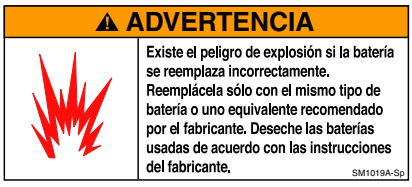
In the event of power loss, a backup battery in an AlphaEclipse sign provides power in order to save messages and time settings.

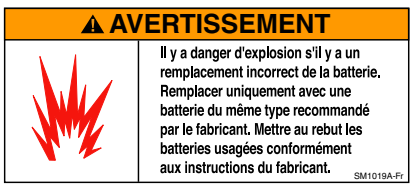
A backup battery is located on a sign's controller board under the turbo driver board (dashed line below). The backup battery should only be replaced by a qualified Adaptive technician.

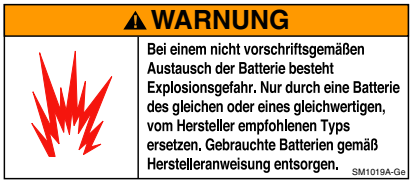


Controller board - the dashed line is the location of the turbo driver board.


WARNING
Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.
SM1019A-En


ADVERTENCIA
Existe el peligro de explosión si la batería se reemplaza incorrectamente. Reemplácela sólo con el mismo tipo de batería o uno equivalente recomendado por el fabricante. Deseche las baterías usadas de acuerdo con las instrucciones del fabricante.
SM1019A-Sp


AVERTISSEMENT
Il y a danger d'explosion s'il y a un remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type recommandé par le fabricant. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.
SM1019A-Fr

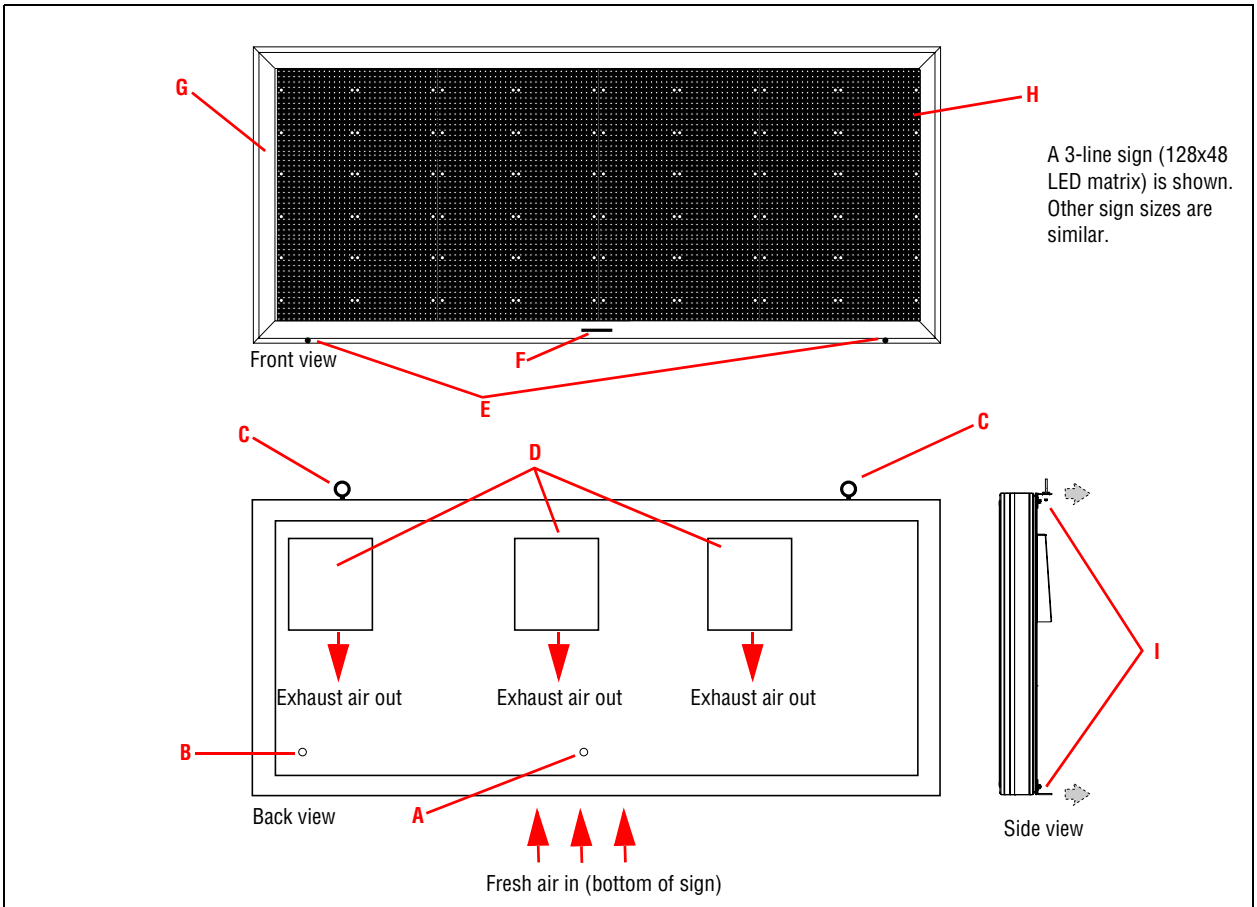

WARNUNG
Bei einem nicht vorschriftsgemäßen Austausch der Batterie besteht Explosionsgefahr. Nur durch eine Batterie des gleichen oder eines gleichwertigen, vom Hersteller empfohlenen Typs ersetzen. Gebrauchte Batterien gemäß Herstelleranweisung entsorgen.
SM1019A-Ge

AVVERTENZA
La sostituzione errata della batteria può comportare il pericolo di esplosione. Sostituire unicamente con una batteria identica o di tipo equivalente consigliata dal fabbricante. Eliminare le batterie scariche in base alle istruzioni del fabbricante.
SM1019A-It

Equipment overview

AlphaEclipse 2500/2600 description

Outside view

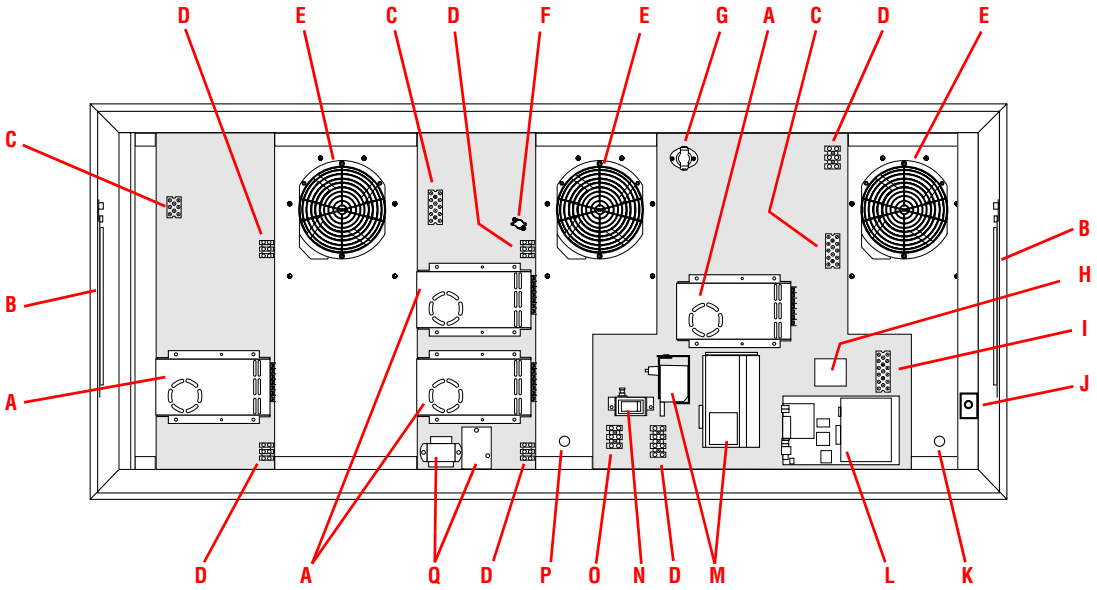


Item	Name	Description
A	Power conduit opening	Access for electrical power. Must be sealed with weather-proof conduit during installation.
B	Signal conduit opening	Access for RS232/RS485 communication signals and for wireless transceiver option. Must be sealed with weather-proof conduit during installation.
C	Lifting Hooks	Used to lift the sign. These should NOT be used to mount the sign.
D	Fan covers	Weather-resistant louvers allow air movement through sign.
E	Locking latches	Locks the sign door closed
F	Door Handle	Used to open the sign door.
G	Sign door	Opens for access to internal sign components. Metal safety bars hold the door open. The door can be removed from its hinges.
H	LED lens cover	Polycarbonate lens cover in the sign door.

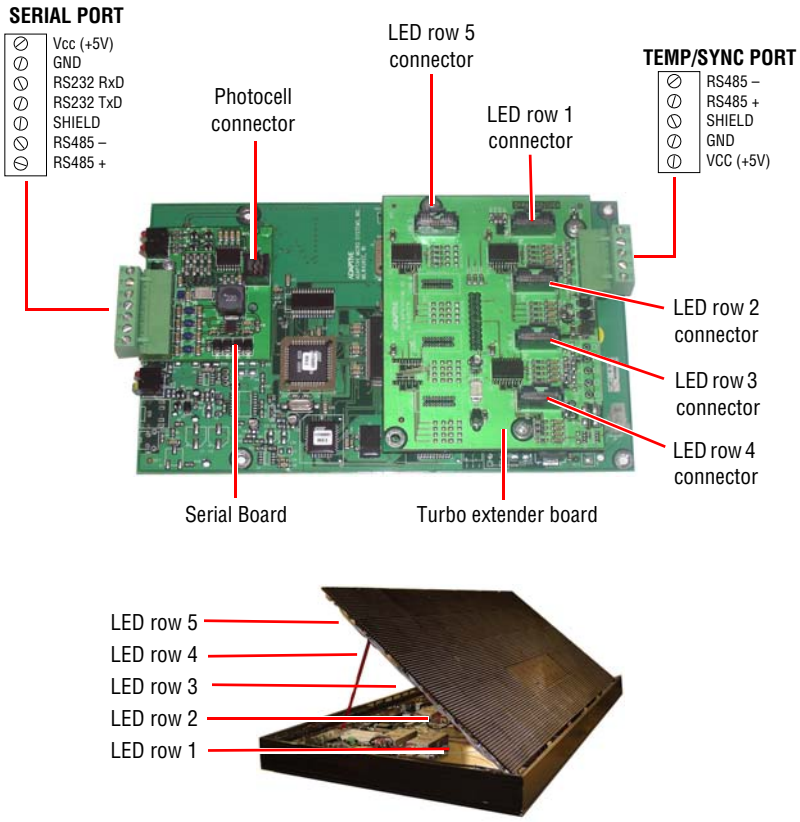
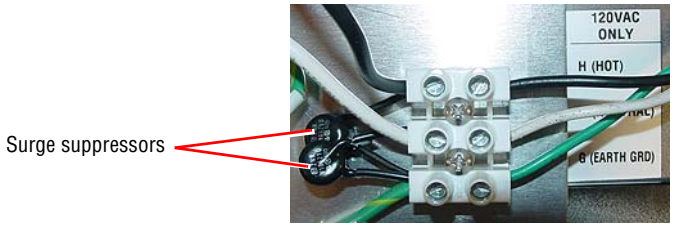
I	Mounting brackets	Used to attach sign to mounting structure

Unit Size	Quantity of Mounting Brackets
96 x 16	4
96 x 32	4
96 x 48	4
96 x 64	4
96 x 80	4
128 x 16	4
128 x 32	4
128 x 48	4
128 x 64	4
128 x 80	4
160 x 16	4
160 x 32	4
160 x 48	6
160 x 64	6
160 x 80	6
192 x 16	4
192 x 32	4
192 x 48	6
192 x 64	6
192 x 80	6

Inside view



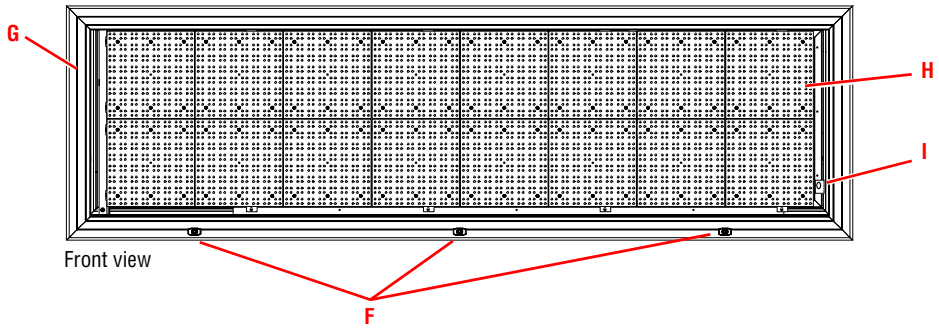
Item	Name	Description
A	5-volt power supply	Provides power to the LED and the Controller boards.
B	Safety bar	Keeps sign door from closing when the sign door is raised.
C	5-volt distribution terminal	Distributes 5-volt power to LED boards.
D	120/240-volt distribution terminal	Distributes 120/240-volt power to the fans and power supplies.
E	Exhaust fan, 55 CFM, 120V	For 1-LED row sign.
	Exhaust fan, 55 CFM, 240V	
	Exhaust fan, 110 CFM, 120V	For 2-LED rows sign.
	Exhaust fan, 110CFM, 240V	
	Exhaust fan, 170 CFM, 120V	For 3-LED rows sign.
	Exhaust fan, 170 CFM, 240V	
	Exhaust fan, 220 CFM, 120V	For 4- and 5-LED rows sign.
	Exhaust fan, 220 CFM, 240V	
F	Exhaust fan thermostat	Turns on exhaust fans when the temperature inside of unit is at or above 30°C (85°F). The location of this thermostat varies depending on the size of the sign.
G	Shutdown thermostat	Shuts down the sign when the temperature inside of the unit exceeds 82°C (180°F). During shutdown, only the sign's fans will operate.
H	Telephone service hookup (part of modem option)	Used to connect a 4-wire telephone line to a modem.
I	Signal I/O terminal block	Used to connect an RS232 or RS485 network to the sign: RS485 + RS485 - SHIELD RS232 TXD RS232 RXD SGL GND A one-line sign does not include a Serial I/O terminal block. Instead, connections are made directly to the Serial Port on the controller board.
J	Photocell	Used to dim the sign's LEDs.

K	Signal conduit opening	Access for RS232/RS485 communication signals and the wireless transceiver option. Must be sealed with weather-proof conduit during installation.
L	Controller board	Controls sign operation. 
M	Modem kit, 120V (option)	Allows sending messages to sign via a modem (option).
	Modem kit, 240V (option)	
	Transceiver kit, 120V (option)	Allows sending messages to sign via a wireless transmitter (option).
	Transceiver kit, 240V (option)	
	Fiber optic modem (option)	Allows sending messages to sign via fiber optic mini-modems (option).
N	Power switch	Used to disconnect sign from power source. An intermittent switch on this assembly allows exhaust fans to be turned in order to test their operation.
O	Power supply terminal block	Used to connect the sign to an appropriate power supply. Two surge suppressors are used per sign. 
P	Power conduit opening	Access for electrical power. Must be sealed with weather-proof conduit during installation.
Q	240V modem transformer and fuses (option)	Used as part of the 240V modem option.

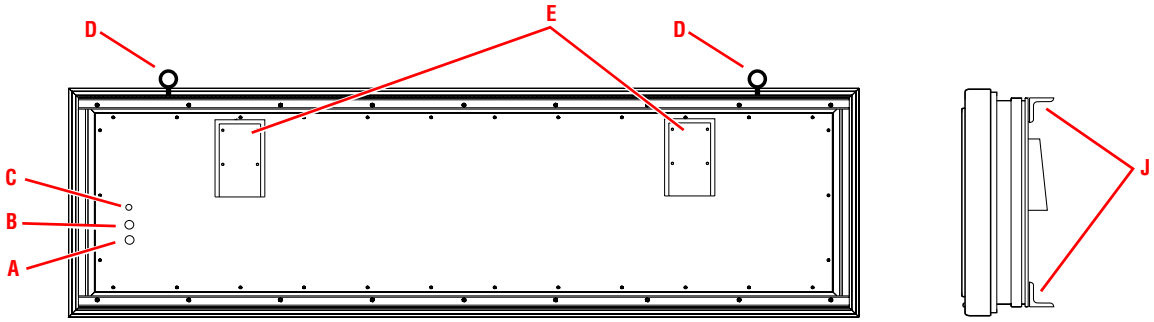
AlphaEclipse 3500 description

Outside view

Shown below is a 2-line sign (64x16 LED matrix).
Other sign sizes are similar.



Front view



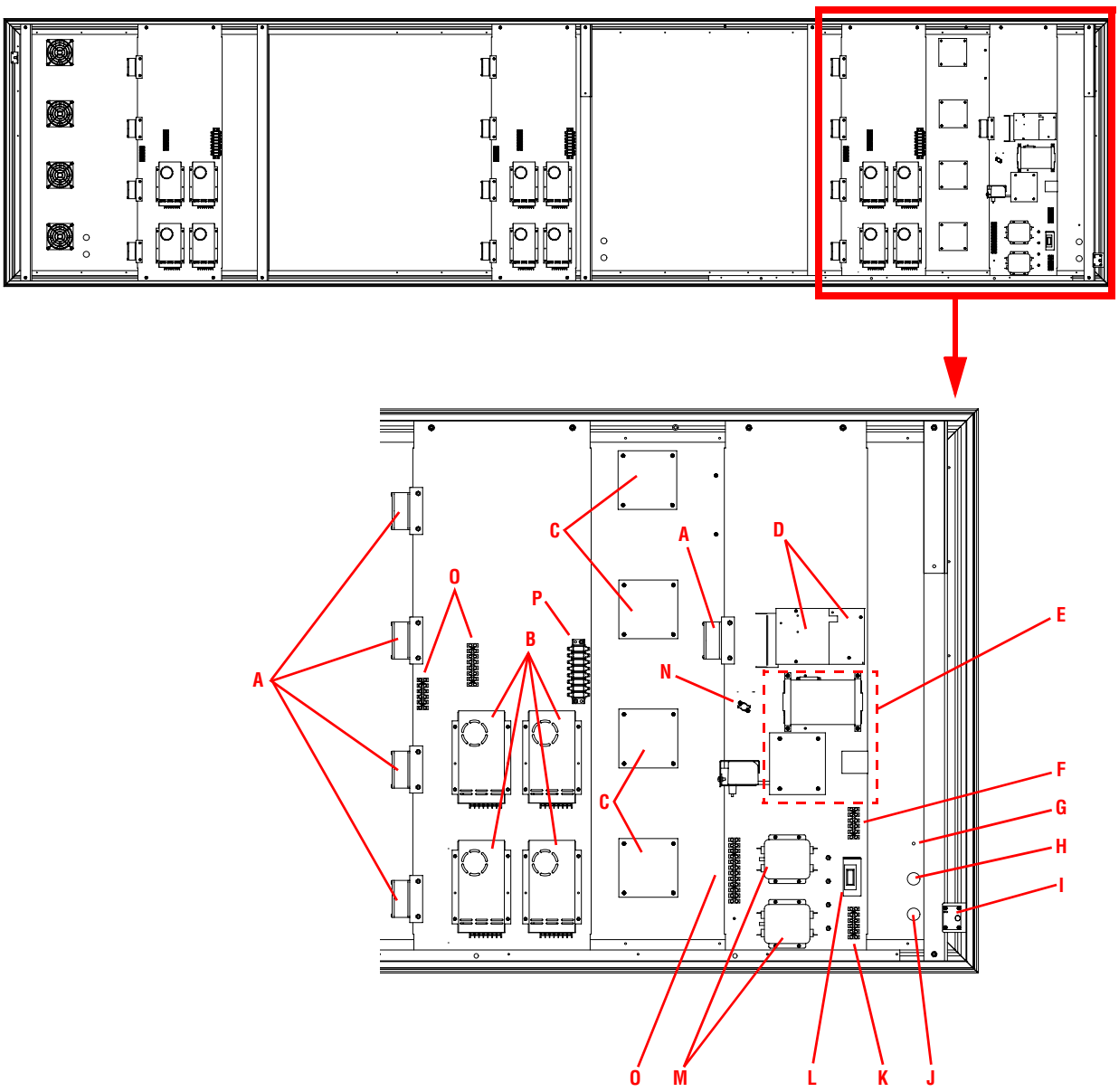
Back view

Side view

Item	Name	Description
A	Power conduit	Access for electrical power. Must be sealed with weather-proof conduit during installation.
B	Signal and temperature probe conduit	Access for communication signals and temperature probe. Must be sealed with weather-proof conduit during installation.
C	Wireless transceiver antenna conduit	Access for antenna for optional wireless transceiver.
D	Lifting hook	Used to lift the sign. should NOT be used to mount the sign.
E	Fan covers	Weather-resistant louvers allow air movement through the sign.
F	Locking latch	Locks the sign closed. Requires key (included). Number of latches depends on the width of the sign.
G	Door	Opens for access to internal sign components. Gas cylinders hold the open door in place.
H	LED lens cover	Polycarbonate lens cover in front access cover.
I	Photocell	Senses available light and dims the LEDs at sunset. The LEDs are dimmed by 50% (default setting).
J	Mounting brackets	Used to attach the sign to a structure.

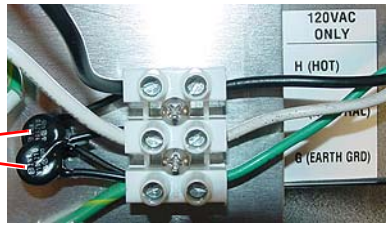
Inside view

Shown below is a 4-line sign.
Other sign sizes are similar.



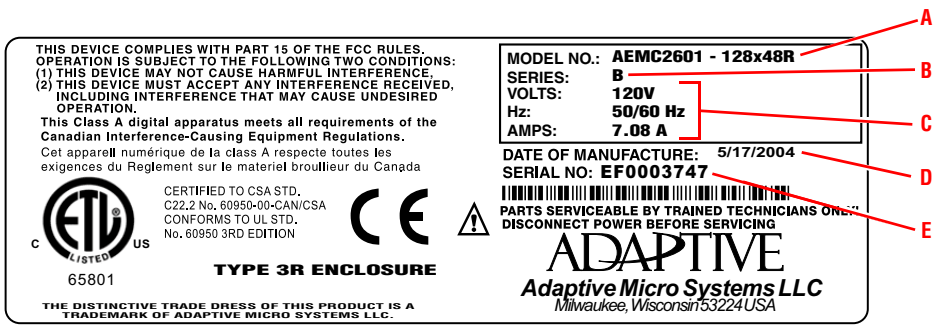
Item	Name	Description
A	Internal fan, 120V Internal fan, 240V	Circulates air in the sign.
B	Power supply	Supplies power to fans, controller board, and LED boards.
C	Exhaust fan, 120V Exhaust fan, 240V	Dissipates heat from sign.
D	Controller board	Controls sign operation.
	Turbo Extender board	Plugs into the controller board.

<table>
<tr><td rowspan="4">E</td><td>Modem kit, 120V</td><td rowspan="2">Allows sending messages to sign via a modem (optional).</td></tr>
<tr><td>Modem kit, 240V</td></tr>
<tr><td>Transceiver kit, 120V</td><td rowspan="2">Allows sending messages to sign via a wireless transmitter (optional).</td></tr>
<tr><td>Transceiver kit, 240V</td></tr>
<tr><td>F</td><td>Signal I/O terminal block</td><td>Used to connect an RS232 or RS485 network to the sign:

RS485 +
RS485 -
SHIELD
RS232 TXD
RS232 RXD
SGL GND
A one-line sign does not include a Serial I/O terminal block. Instead, connections are made directly to the Serial Port on the controller board.</td></tr>
<tr><td>G</td><td>Wireless transceiver antenna conduit opening</td><td>Used to connect antenna to the optional wireless transceiver.</td></tr>
<tr><td>H</td><td>Signal wire conduit opening</td><td>Used to run a RS232 or RS485 signal wire or fiber optic cable to sign.</td></tr>
<tr><td>I</td><td>Photocell</td><td>Contains light-sensitive photocell used to dim the sign's LEDs.</td></tr>
<tr><td>J</td><td>Power line conduit opening</td><td>Wires from power supply terminal block are run through this opening to a suitable power source.</td></tr>
<tr><td>K</td><td>Power supply terminal block</td><td>Used to connect the sign to an appropriate power supply.
Surge suppressors
  </td></tr>
<tr><td>L</td><td>Power switch</td><td>Used to disconnect sign from power source.</td></tr>
<tr><td>M</td><td>Line filter</td><td>Removes electrical noise (EMOI) from power supply connection.</td></tr>
<tr><td>N</td><td>Exhaust fan thermostat</td><td>Turns on exhaust fan when inside of unit gets too hot.</td></tr>
<tr><td>O</td><td>5V connection terminal</td><td>Provides power to LED boards.</td></tr>
<tr><td>P</td><td>120/240V connection terminal</td><td>An all-plastic terminal strip that provides power to the power supplies and fans.</td></tr>
</table>

Equipment identification

Equipment identification labels are located inside and on the back of a sign.


THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.
OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:
(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE,
(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.
This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
Cet apparell numérique de la class A respecte toutes les exigences du Reglement sur le materiel broullieur du Canada
CERTIFIED TO CSA STD. C22.2 No. 60950-00-CAN/CSA
CONFORMS TO UL STD. No. 60950 3RD EDITION
65801
TYPE 3R ENCLOSURE
THE DISTINCTIVE TRADE DRESS OF THIS PRODUCT IS A TRADEMARK OF ADAPTIVE MICRO SYSTEMS LLC.
MODEL NO.: AEMC2601 - 128x48R
SERIES: B
VOLTS: 120V
Hz: 50/60 Hz
AMPS: 7.08 A
DATE OF MANUFACTURE: 5/17/2004
SERIAL NO: EF0003747
PARTS SERVICEABLE BY TRAINED TECHNICIANS ONLY
DISCONNECT POWER BEFORE SERVICING
ADAPTIVE
Adaptive Micro Systems LLC
Milwaukee, Wisconsin 53224 USA
A
B
C
D
E

Item	Name	Description
A	Model number	AEMC2601 - 128X48R LED lamp color: • A = Amber • R = Red Width (pixel columns) Height (pixel rows) LED lamp viewing angle: • 00 = 30 degree • 01 = 70 degree LED pitch: • 25 = 0.45-inch pitch (AlphaEclipse 2500 sign) • 26 = 0.60-inch pitch (AlphaEclipse 2600 sign) • 35 = 1.40-inch pitch (AlphaEclipse 3500 sign)
B	Series letter	Revision level of sign.
C	Electrical information	Input voltage, frequency, and total aperage of sign.
D	Date of manufacture	Month, day, and year the sign was made.
E	Serial number	Consecutive, unique identification number

Temperature protection

In order to protect itself from damage, a sign will automatically turn on its exhaust fans and dim or turn off its LEDs when the sign reaches a predetermined internal temperature.

<table>
<tr><th>Internal sign temperature:</th><th>< 30°C
(86°F)</th><th>30° - 49°C
(86° - 120°F)</th><th>50° - 70°C
(122° - 158°F)</th><th>71° - 81°C
(160° - 178°F)</th><th>82°C or greater
(180°F)</th></tr>
<tr><td>LEDs:</td><td colspan="2">Normal brightness</td><td>Dim[1]</td><td>Off[2]</td><td rowspan="3">Off[3]</td></tr>
<tr><td>Controller board:</td><td colspan="4">On</td></tr>
<tr><td>Power supplies:</td><td colspan="4">On</td></tr>
<tr><td>Exhaust fans:[4]</td><td>Off</td><td colspan="4">On</td></tr>
</table>

NOTES:

[1] Between 50° - 60°C (122° - 140°F), LED brightness can decrease between 62.5% - 100% of normal, depending on display load.
Between 60° - 65°C (140° - 149°F), LED brightness can decrease between 50% - 87.5% of normal, depending on display load.
Between 65° - 70°C (149° - 158°F), LED brightness can decrease between 37.5% - 75% of normal, depending on display load.
(*Display load* means the number of LEDs that are on. For example, a graphic that lights up most of a sign's LEDs will have more of a display load than a simple text message that lights up only some LEDs.)

[2] When the LEDs are turned off because the sign is too hot, two LEDs in the left most corner will remain on to indicate a thermal shutdown.

[3] All LEDs will be off.

[4] At or above 30° C (86° F), the exhaust fans are switched on by the exhaust fan thermostat. If the temperature drops to 20° C (67° F), then the exhaust fans are turned off.

Equipment symbols

Chassis ground

Main power (I = On, 0 = Off)

Preventing electrostatic discharge damage

This equipment contains components that may be damaged by "static electricity", or electrostatic discharge. To prevent this from happening, be sure to follow the guidelines in Adaptive Tech Memo 00-0005, *"Preventing Electrostatic Discharge (ESD) Damage,"* available on our Web site at http://www.adaptivedisplays.com.

EMI compliance

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with installation guidelines, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Installation

Mechanical Installation

Guidelines for mechanical installation

Because every sign installation is unique, there is no single procedure for mounting AlphaEclipse signs.

This section is only intended as a guide. A set of sign shop drawings is attached to the end of this manual. These drawing should aid in most any type of installation.

All installations, superstructure designs, and connections must be designed and approved by a qualified structural engineer. Call Adaptive Micro Systems at 1-800-558-7022 for contact information for structural engineering consultants.

- Only use the sign's mounting support brackets to mount a sign. *Mounting to any other part of the sign will void the warranty.*
- Drill holes as needed in the sign's steel framework for fasteners, but consult the attached shop drawings for excluded areas. *Drilling holes in any of these excluded areas will void the sign's warranty.* When drilling holes, follow these guidelines:
  - Connections must be analyzed by a structural engineer.
  - Dissimilar metals should be isolated to avoid galvanic corrosion.
- Any area on the sign's frame that had paint removed during mounting must be recoated with a paint recognized by UL test #1332. *Failure to repaint the area will result in accelerated corrosion of the sign's structure. Adaptive Micro Systems is not responsible for any failure in the sign's structure because of this.* (POLAN HS Plus Polyurethane Enamel is used to paint the sign's frame during manufacturing.)

Support structure design

The design of a sign's support structure depends on a number of factors:

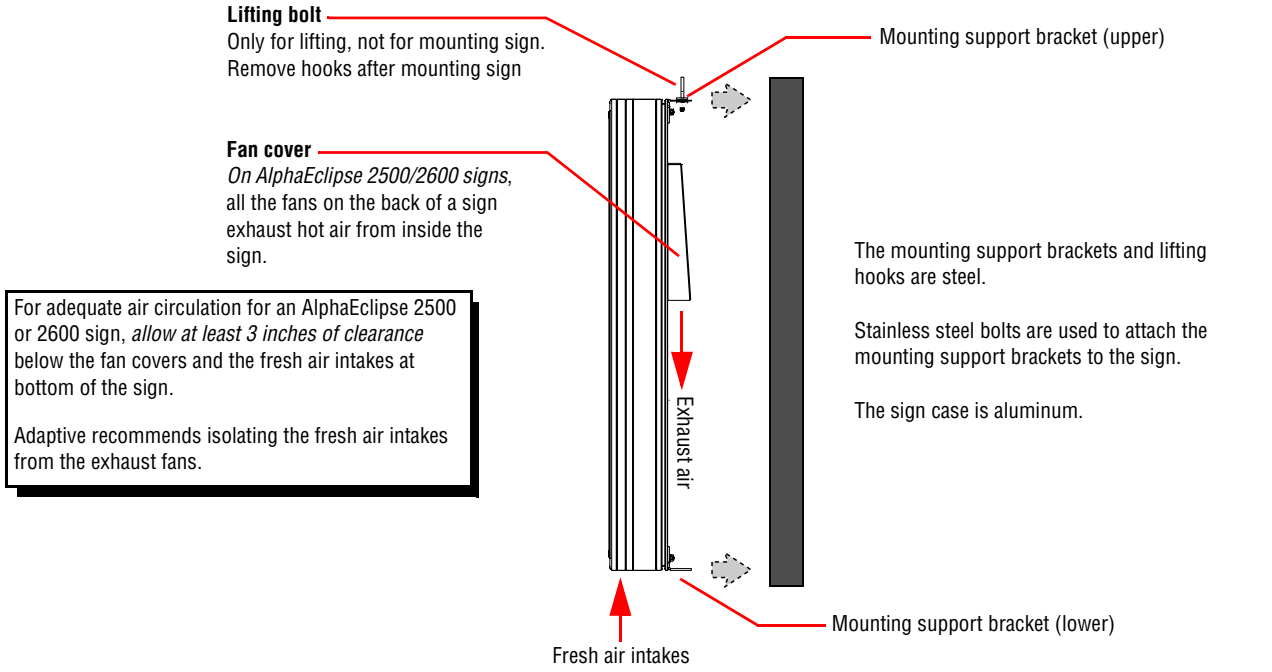
- mounting methods
- building codes
- foundation
- sign size
- sign weight
- sign height
- wind loading

Ventilation requirements for open-air sign mounting

If the sign will be mounted to a solid surface like a wall where air flow is *not restricted*, then refer to the illustrations below for sign mounting ventilation requirements.

Otherwise, if the sign will be mounted in a location where air flow is *restricted*, then see "Ventilation requirements for monument-style sign mounting" on page 16.

AlphaEclipse 2500/2600 sign open-air mounting ventilation


Lifting bolt
Only for lifting, not for mounting sign.
Remove hooks after mounting sign
Mounting support bracket (upper)
Fan cover
On AlphaEclipse 2500/2600 signs, all the fans on the back of a sign exhaust hot air from inside the sign.
Exhaust air
The mounting support brackets and lifting hooks are steel.
Stainless steel bolts are used to attach the mounting support brackets to the sign.
The sign case is aluminum.
Mounting support bracket (lower)
Fresh air intakes

For adequate air circulation for an AlphaEclipse 2500 or 2600 sign, *allow at least 3 inches of clearance* below the fan covers and the fresh air intakes at bottom of the sign.

Adaptive recommends isolating the fresh air intakes from the exhaust fans.

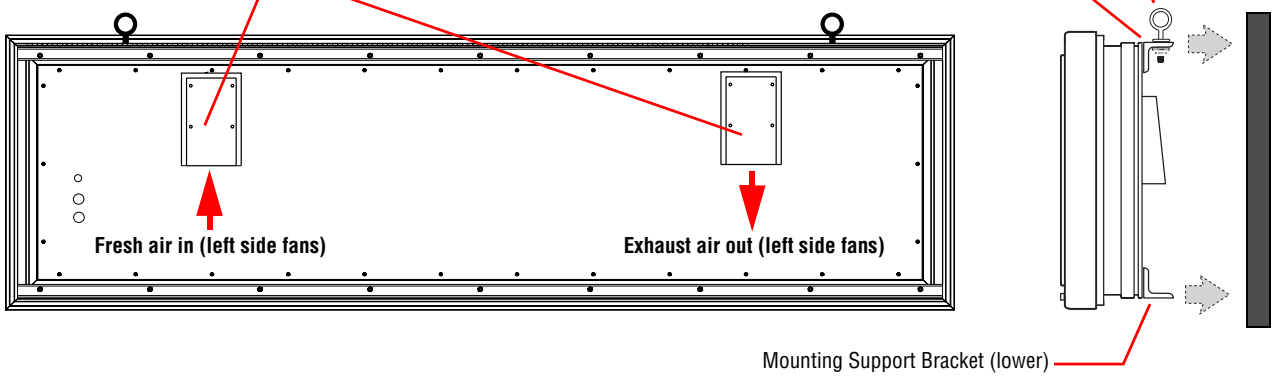
AlphaEclipse 3500 sign open-air mounting ventilation

Fan covers
On AlphaEclipse 3500 signs, fans on the back left side of a sign intake air. Fans on the back right side exhaust hot air from inside the sign.

Allow at least 1.5 inches of clearance below each fan cover.

Lifting hooks
Only for lifting, not for mounting sign.
Remove hooks after mounting sign.

Mounting support bar (upper)



For adequate are circulation with an AlphaEclipse 3500, sign, allow *at least 1.5 inches of clearance below the fan covers*.

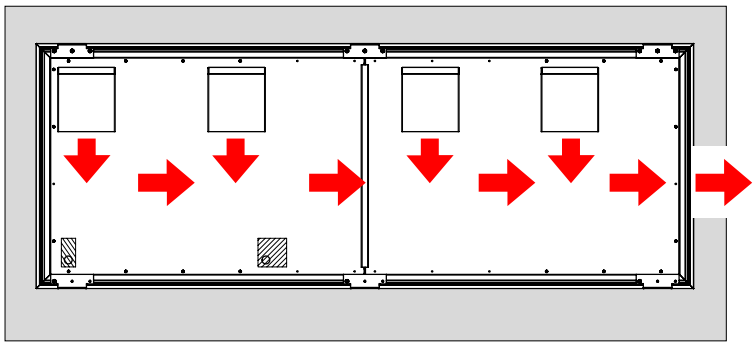
Adaptive recommends isolating the fresh air intakes from the exhaust fans.

Ventilation requirements for monument-style sign mounting

Unlike open-air sign mounting, a sign that is enclosed has restricted air flow. Follow the requirements below for monument-style sign mounting.

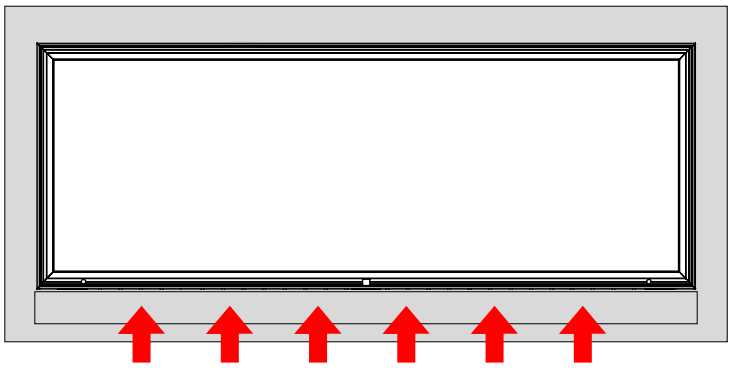
AlphaEclipse 2500/2600 sign monument-style ventilation

Monument-style mounting
Back view cutaway



Exhaust air opening
(See Table 1, “Alpha Eclipse 2500/2600 sign monument ventilation requirements,” on page 16.)

Monument-style mounting
Front view



Fresh air opening
(see Table 1: "Alpha Eclipse 2500/2600 sign monument ventilation requirements" below)

Monument-style mounting
Side view cutaway

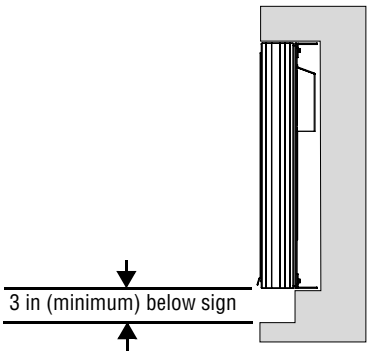
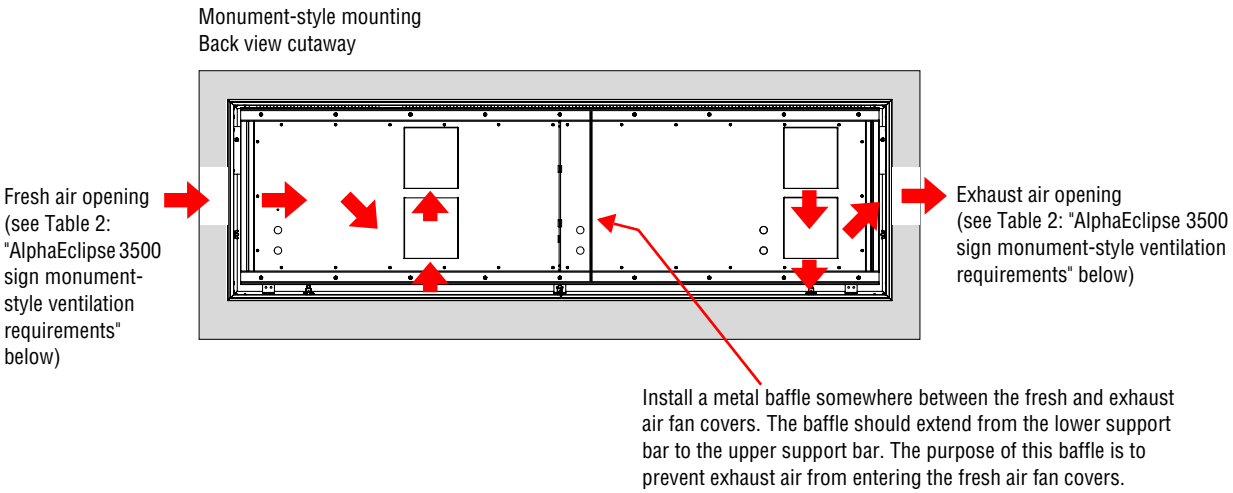


Table 1: Alpha Eclipse 2500/2600 sign monument ventilation requirements

	Total # of fans	Exhaust air opening size (minimum)	Fresh air opening size (minimum)
AlphaEclipse 2500 sign	2	16 sq. in.	Allow 2 square inches per 1 inch of sign length. Example: a 60-inch long sign requires a 120 sq. in (60*2) fresh air opening
	3	24 sq. in.	
	4	32 sq. in.	
AlphaEclipse 2600 sign	3	48 sq. in.	
	4	64 sq. in.	
	5	80 sq. in.	

AlphaEclipse 3500 sign monument style ventilation

Unlike an AlphaEclipse 2500/2600 sign where all the fan covers exhaust air, on an AlphaEclipse 3500 sign, only the right side fan covers exhaust air while the left side fan covers intake fresh air.


Monument-style mounting
Back view cutaway
Fresh air opening (see Table 2: "AlphaEclipse 3500 sign monument-style ventilation requirements" below)
Exhaust air opening (see Table 2: "AlphaEclipse 3500 sign monument-style ventilation requirements" below)
Install a metal baffle somewhere between the fresh and exhaust air fan covers. The baffle should extend from the lower support bar to the upper support bar. The purpose of this baffle is to prevent exhaust air from entering the fresh air fan covers.

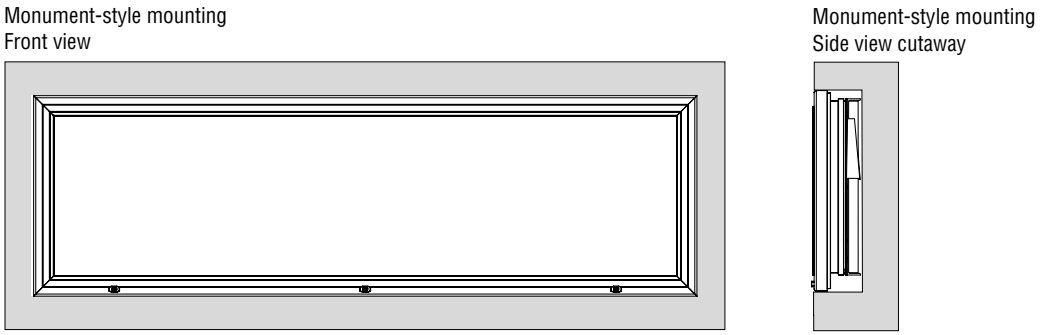


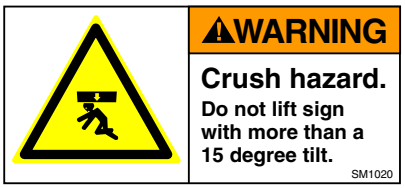
Table 2: AlphaEclipse 3500 sign monument-style ventilation requirements

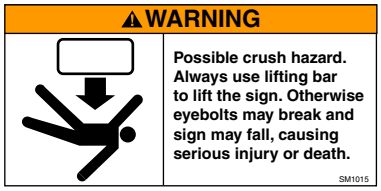
	Total # of fans	Exhaust air opening size (minimum)	Fresh air opening size (minimum)
AlphaEclipse 3500 sign	2	16 sq. in.	16 sq. in.
	4	32 sq. in.	32 sq. in.
	6	48 sq. in.	48 sq. in.
	8	64 sq. in.	64 sq. in.

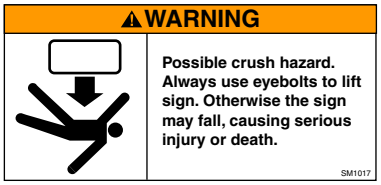
Lifting the sign

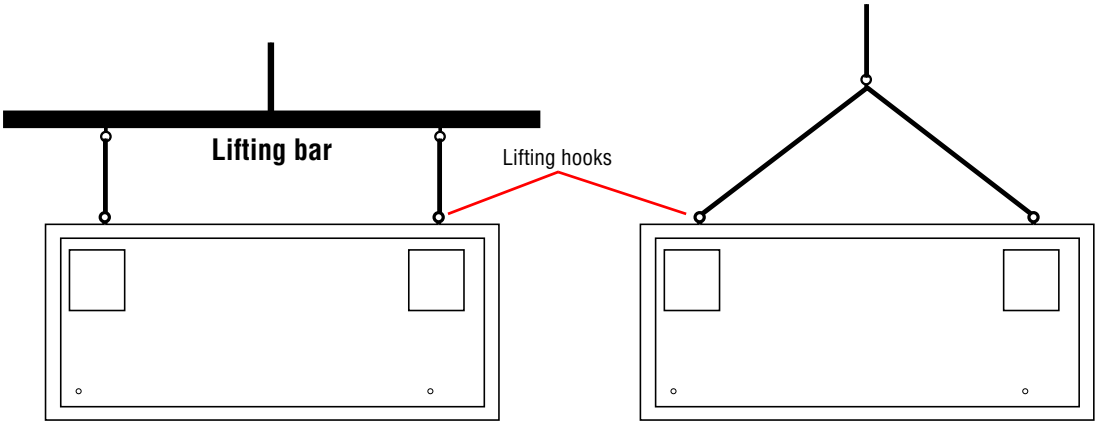
Use the two lifting hooks on the sign with a lifting bar to raise the sign:

NOTE: After mounting the sign, remove the lifting hooks.




WARNING
Possible crush hazard. Always use lifting bar to lift the sign. Otherwise eyebolts may break and sign may fall, causing serious injury or death.
SM1015


WARNING
Possible crush hazard. Always use eyebolts to lift sign. Otherwise the sign may fall, causing serious injury or death.
SM1017



Temperature probe mounting (optional)

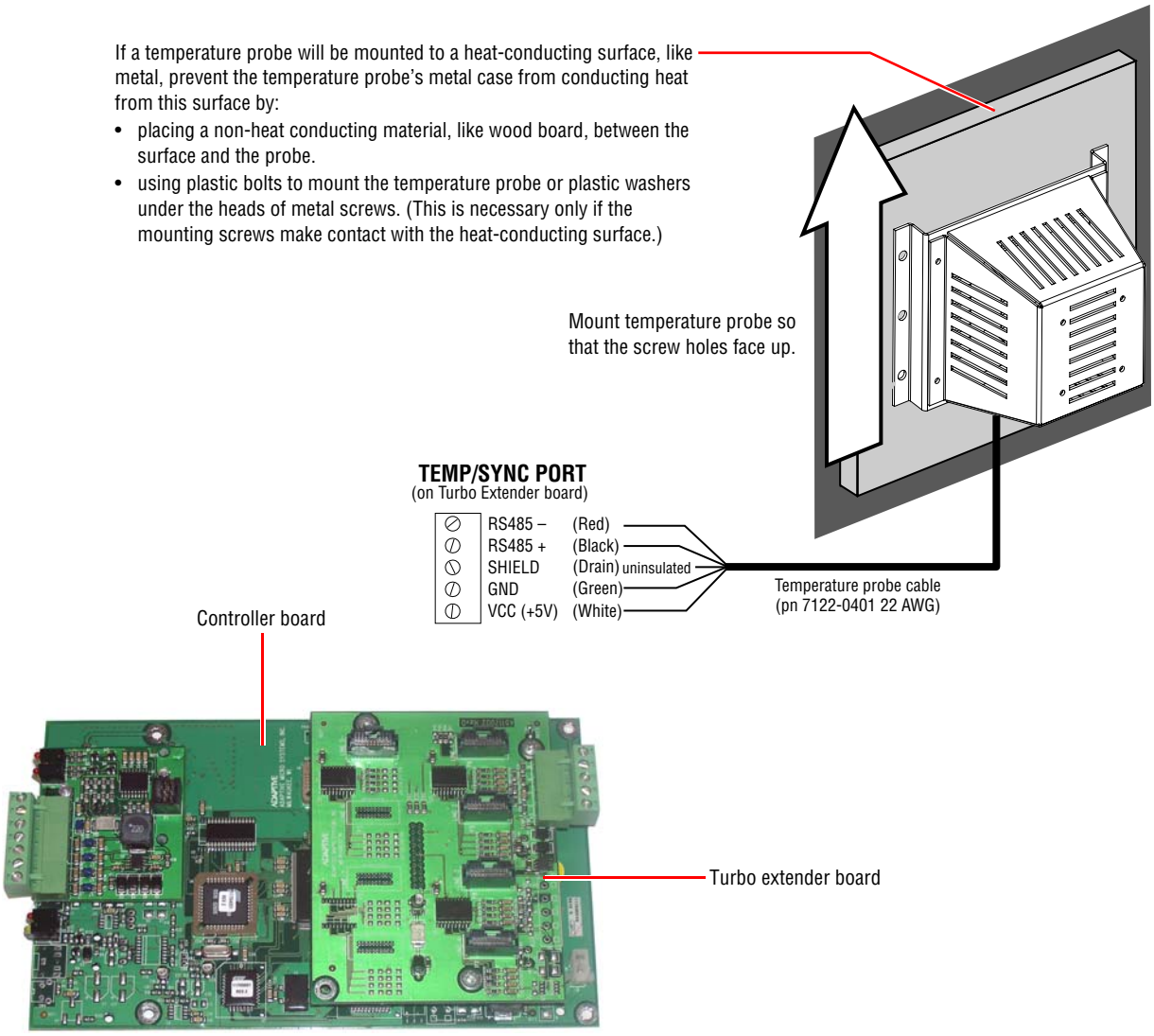
NOTE: Complete this section only if your sign is equipped with a temperature probe.

Guidelines for temperature probe mounting

- Choose a location where air movement is not restricted by nearby walls or other obstructions. A light-colored background is preferable to a dark-colored mounting background. A location above vegetation is preferable to a location above asphalt or concrete.
- Mount the temperature probe at least one foot below the eave of a protected overhang so convection currents (rising hot air flow) are not trapped around the temperature probe. Make sure convection currents are not blocked by the mounting plates.
- A location on the north side of a building or other large structure will afford protection from the afternoon sun. Mount the temperature probe at least 6 feet off the ground. Shield the probe from the effect of the direct sun, reflected heat, or any nearby sources of heat, such as chimneys, vents, or HVAC ducts.

Installation

1. Mount the temperature probe vertically using the mounting plate on each side of the probe. The temperature probe can be mounted on either a flat or a curved surface. Run the temperature probe cable into the sign through the signal wire conduit opening.
2. Connect the temperature probe to the sign as shown:


If a temperature probe will be mounted to a heat-conducting surface, like metal, prevent the temperature probe's metal case from conducting heat from this surface by:
• placing a non-heat conducting material, like wood board, between the surface and the probe.
• using plastic bolts to mount the temperature probe or plastic washers under the heads of metal screws. (This is necessary only if the mounting screws make contact with the heat-conducting surface.)
Mount temperature probe so that the screw holes face up.
TEMP/SYNC PORT
(on Turbo Extender board)
RS485 – (Red)
RS485 + (Black)
SHIELD (Drain) uninsulated
GND (Green)
VCC (+5V) (White)
Temperature probe cable
(pn 7122-0401 22 AWG)
Controller board
Turbo extender board

Wireless transceiver antenna mounting (optional)

NOTE: Complete this section only if your sign is equipped with a wireless transceiver.

Guidelines for antenna mounting

- Install the antenna and bracket on a support structure other than the sign or the sign's mounting brackets. Do NOT drill a hole in the sign enclosure.
- Install the antenna in a location that will allow optimum line-of-sight transmission and reception of signals between the sending transceiver and the antenna. Do not install the antenna so that the sign is between the sending transceiver and the receiving antenna.
- Install the antenna in an unobstructed area, keeping adequate clearance from any objects that could block the signal.
- Install the antenna in a more elevated location than the sign and, if possible, keep it vertical.

Installation

Mount the wireless antenna as shown:

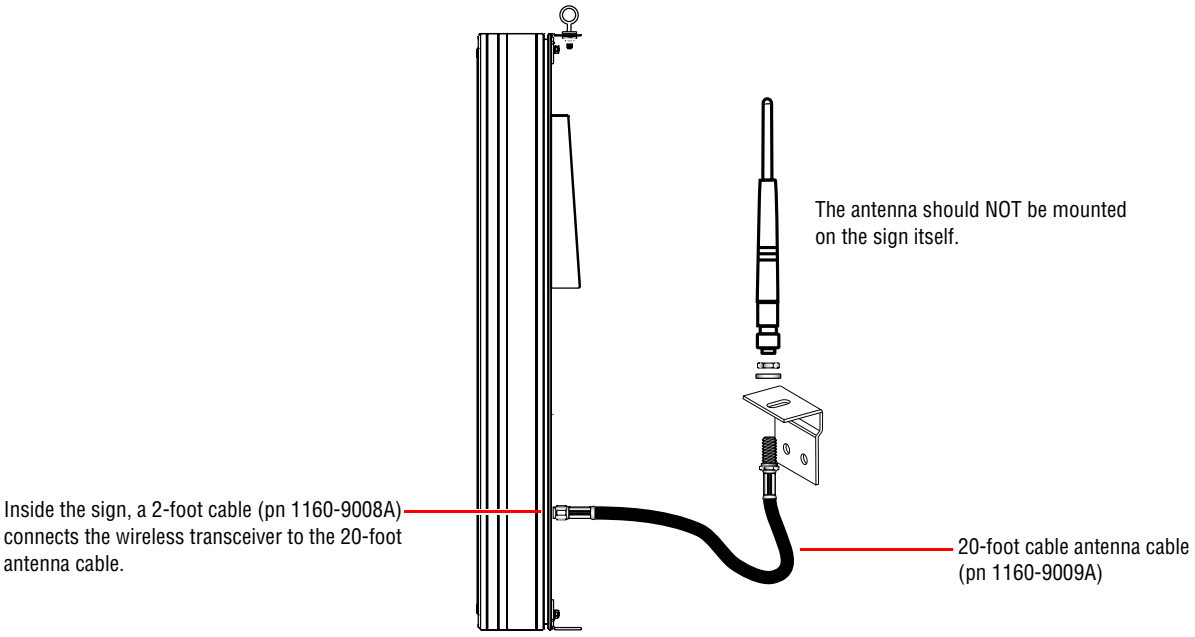
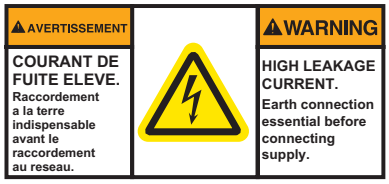

The antenna should NOT be mounted on the sign itself.
Inside the sign, a 2-foot cable (pn 1160-9008A) connects the wireless transceiver to the 20-foot antenna cable.
20-foot cable antenna cable (pn 1160-9009A)

Figure 1: Wireless antenna mounting

Electrical installation

Electrical installation should only be attempted by a qualified electrician. Electrical connection must comply with all applicable national and local codes.


AVERTISSEMENT
COURANT DE FUITE ELEVE.
Raccordement a la terre indispensable avant le raccordement au reseau.
WARNING
HIGH LEAKAGE CURRENT.
Earth connection essential before connecting supply.

WARNING
Hazardous voltage.
Contact with high voltage may cause death or serious injury.
Always disconnect power to unit prior to servicing.

Guidelines for electrical installation

- Inspect all internal sign cabling for proper connection and seating.
- All power wiring must be from circuit breaker-protected lines. However, a sign should NOT be connected to a GFI-protected circuit.
- A two-pole disconnect device must be installed in the building wiring for each branch circuit supplying the sign.
- The sign must be properly grounded according to the applicable codes (for example, NEC ARticle 250 and 600, and IEEE 1100-1999).
- Run separate conduits for signal wires (for example, RS232, RS485) and for power wires. However, fiber optic wire may be run in the same conduit with power wires.
- All electrical connections must be watertight.
- Use minimum 80° C copper wire only.
  Utiliser uniquement un fil en cuivre pouvant supporter 85° C minimum.
- Torque terminals to a minimum of 7 in/lbs and a maximum of 10in/lbs.
  Serrer les bornes a 0,79 N/m minimum, mais pas a plus de 1,13 N/m.

Open the sign

1. Open the sign.

   •For an AlphaEclipse 2500/2600 sign, see “Opening and Closing an AlphaEclipse 2500/2600 sign” on page 39.

   •For an AlphaEclipse 3500 sign, see “Opening and Closing an AlphaEclipse 3500 sign” on page 41.

Connect communication wire

2. If two signs are installed together, wire the two as either master/master (page 26) or master/slave (page 27).
3. Connect the sign(s) to a computer (“Computer-to-sign connections” on page 28).

Connect power to the sign

120V	240V	Power Supply Terminal block
LINE 1	LINE	
LINE 2	NEUTRAL	
GROUND	GROUND	

4. Run power wires to the sign using waterproof conduit.
5. Connect power wires to the power supply terminal block

•For AlphaEclipse 2500/2600 sign current requirements, see Figure 4 on page 50.

•For AlphaEclipse 3500 sign current requirements, see Figure 8 on page 54.

Adaptive Explains

Why is it necessary to run two conduits to a sign?

It is not always necessary. Two conduits are only necessary when communication wire, like RS485 wire, is run to a sign from a computer or from another sign. In these cases, one conduit would contain the sign's power wires and the other conduit the communication wires.

If power and communication wires are put in the same conduit, there is a chance the communication wires might pick up electrical interference from the power wires. For example, when a live power cord is placed next to a stereo speaker wire, the interference from this cord may cause the speaker to hum. In the case of a sign, this same effect could disrupt messages sent to the display.

On the other hand, fiber optic cable and power wires can share the same conduit because fiber optic cable is immune to electrical interference.

Ground the sign

6. The sign must be properly grounded in order to provide three types of protection:

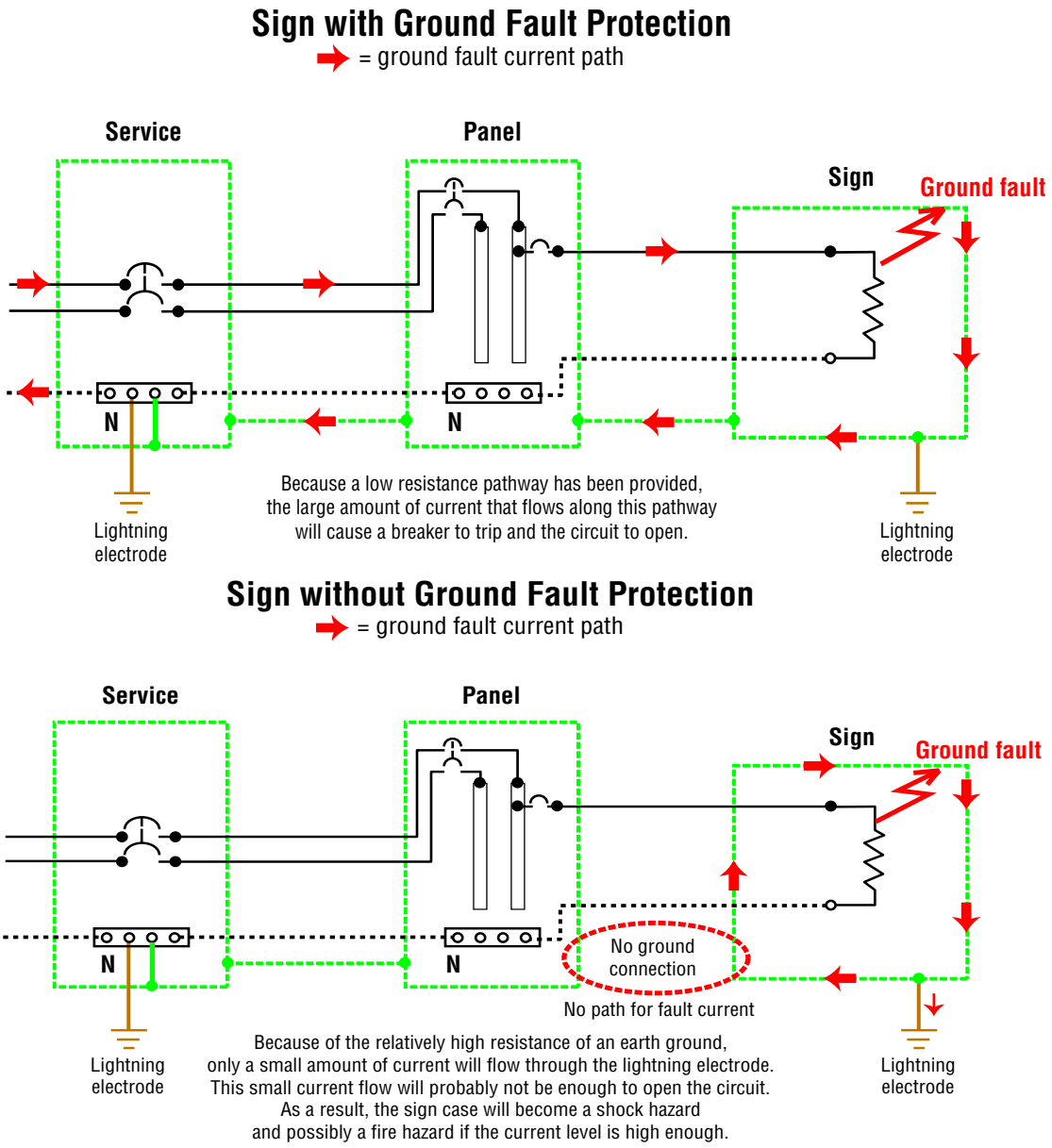
- Ground fault protection (see page 23) -- The sign must be wired to provide a permanent, low impedance pathway to carry sign ground fault current. This is necessary in order to quickly clear a sign ground fault by opening the power circuit to the sign.

Earth grounding a sign through some type of ground rod bonded to the sign is not sufficient ground fault protection.

- Lightning strike protection (see page 23) -- An improperly wired sign could radiate electromagnetic fields (EMF) that may damage or interfere with electronic equipment in or near the sign (see NEC Article 250.6)
- Electronic equipment protection (see page 23) -- An improperly wired sign could radiate electromagnetic fields (EMF) that may damage or interfere with electronic equipment in or near the sign (see NEC Article 250.6).

The sign grounding point ⏚ should be connected to the earth ground (for example, a grounding rod).

Ground fault protection


Sign with Ground Fault Protection
= ground fault current path
Service
Panel
Sign
Ground fault
N
N
Because a low resistance pathway has been provided,
the large amount of current that flows along this pathway
will cause a breaker to trip and the circuit to open.
Lightning electrode
Lightning electrode
Sign without Ground Fault Protection
= ground fault current path
Service
Panel
Sign
Ground fault
N
N
No ground connection
No path for fault current
Because of the relatively high resistance of an earth ground,
only a small amount of current will flow through the lightning electrode.
This small current flow will probably not be enough to open the circuit.
As a result, the sign case will become a shock hazard
and possibly a fire hazard if the current level is high enough.
Lightning electrode
Lightning electrode

Lightning strike protection

A sign bonded to an earth ground has a means of dissipating the high voltage and current from a lightning strike. The resistance of the grounding electrode should be as low as possible. However, damage can still occur to a sign's electronic equipment from lightning voltage transients.

Though some surge protection is incorporated into a sign, to protect a sign from high-voltage lightning transients, surge protectors need to be installed at the panel boards (see NEC Article 280 and 284).

Electronic equipment protection

A common cause for the failure of sensitive electronic equipment is the presence of objectionable current (also called objectionable neutral current) on grounding and bonding paths.

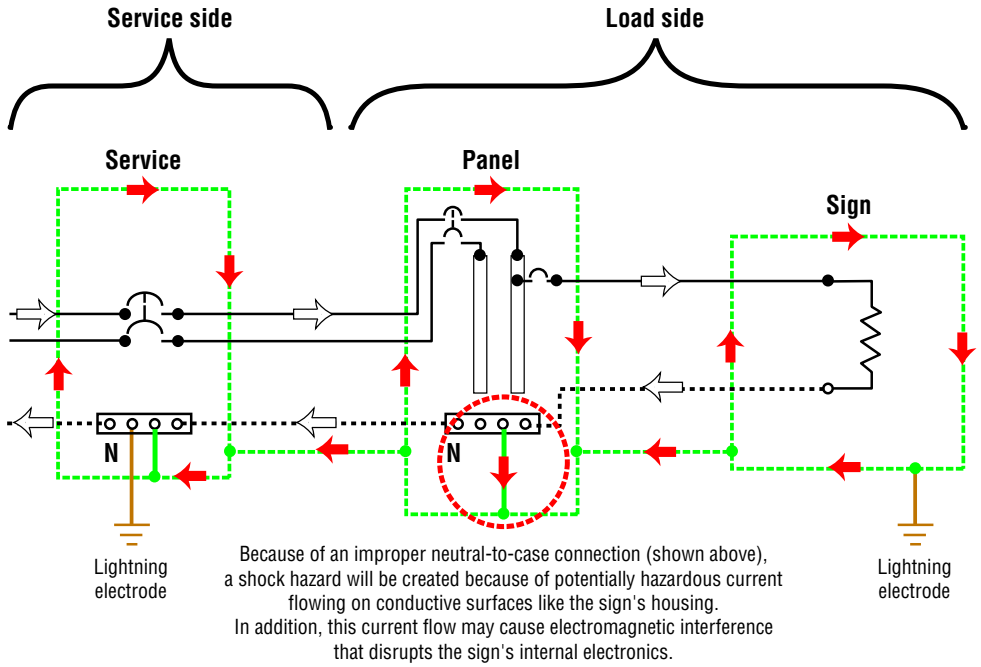
Objectionable neutral current can be caused by:

- Errors in installation wiring

- Improper neutral-to-case bonds (illustrated below)

Objectionable Neutral Current caused by Improper Neutral-to-Case Bond

⇨ = normal current path
➡ = objectionable neutral current path


Service side
Load side
Service
Panel
Sign
N
N
Lightning electrode
Lightning electrode
Because of an improper neutral-to-case connection (shown above), a shock hazard will be created because of potentially hazardous current flowing on conductive surfaces like the sign's housing. In addition, this current flow may cause electromagnetic interference that disrupts the sign's internal electronics.

- Equipment-grounding conductor used to carry neutral current -- This situation arises when no separate grounding wire is present when connecting power to a sign. NEC Article 250.32(B)(2) does permit a neutral-ground bond to be used in a separate structure if all of the following three conditions are met:
  (1) an equipment grounding connector is not run with the supply to the structure
  (2) there are no continuous metallic paths bonded to the grounding system in both structures involved
  (3) equipment ground fault protection has not been installed on the common AC service

Adaptive does not recommend using the equipment-grounding connector to carry neutral current as permitted by NEC 250.32(B)(2) because it creates a potentially hazardous situation. For example, a future installer might connect cabling between the two structures and this could create a dangerous parallel current path.

Adaptive Explains

How can you tell if objectionable neutral current is present?

A true RMS microohm multimeter can be used to measure the voltage difference between the neutral and ground conductors. Though a difference of OV is ideal, the voltage difference should not exceed 0.5V.

Test the sign's exhaust fans

7. Apply power to the sign.
8. Push 1 on the sign's internal power switch.
9. If the exhaust fans are not already on, press the fan test button. All the exhaust fans should start.

Networking

AlphaEclipse signs can be connected together into a network of two or more signs (see “Sign-to-sign connections” on page 25).

Also, in order to display messages, a sign must be connected to a computer that is running AlphaNET software (see “Computer-to-sign connections” on page 28).

Sign-to-sign connections

Two or more signs can be set up as either

- Master/Master signs (page 26) -- two or more signs that can display a different message. While the same message could be sent to both Master signs, the messages may not appear at exactly the same time on the signs
- Master/Slave signs (page 27) -- all these signs display the same message at the same time. In this setup, one sign is configured as the Master and all the others as Slave signs.

NOTE: When two or more signs are connected together, they must be properly terminated. See “RS485 termination” on page 44.

Adaptive Explains

Does it matter if signs are set up as Master/Master or Master/Slave?

Only if it matters to you. the only difference between the two ways is that Master/Slave signs will all display the same message at the same time. For example, this could be important if you have two signs mounted back-to-back near a highway. If these signs are set up as Master/Slave signs, then highway traffic in both directions would see the same message.

How are signs set up to be Master/Master?

Signs are configured at the factory.

Is there any way to tell whether a sign is a Master or a Slave sign by just looking at it?

Probably not without turning the sign off and then on again. For more information, see “Serial address of a sign” on page 38.

Can a pair of Master/Master signs be changed to a Master/Slave pair (or vice versa)?

Yes -- by wiring the sign correctly and then by using AlphaNET software:
(1) First, wire the signs as Master/Master (page 26) or Master/Slave (page 27).
(2) You will need to know the serial address of the sign(s) you want to change. To find the address(es), turn the sign(s) off and then on again. The serial address(es) will appear in the sign’s startup messages (see “Method 2” on page 38).
(3) Next, start the AlphaNET Diagnostics software by selecting Start > Programs > AlphNET > Diagnostics. Once Diagnostics starts, check configure Sign (Advanced) and then click Select. Click OK at the prompt.
(4) Click Select Address and enter the serial address of the sign you wish to change. Then click OK.
(5) Check Set Other Options. Select either master or Slave from the Master/Slave pull down. Then click Send.

Master / Master sign connection — AlphaEclipse™ 2500/2600/3500

Overview

Two signs connected as a Master/Master pair can each display a *unique* message — unlike a Master/Slave sign pair which always displays the *same* message at the *same* time.

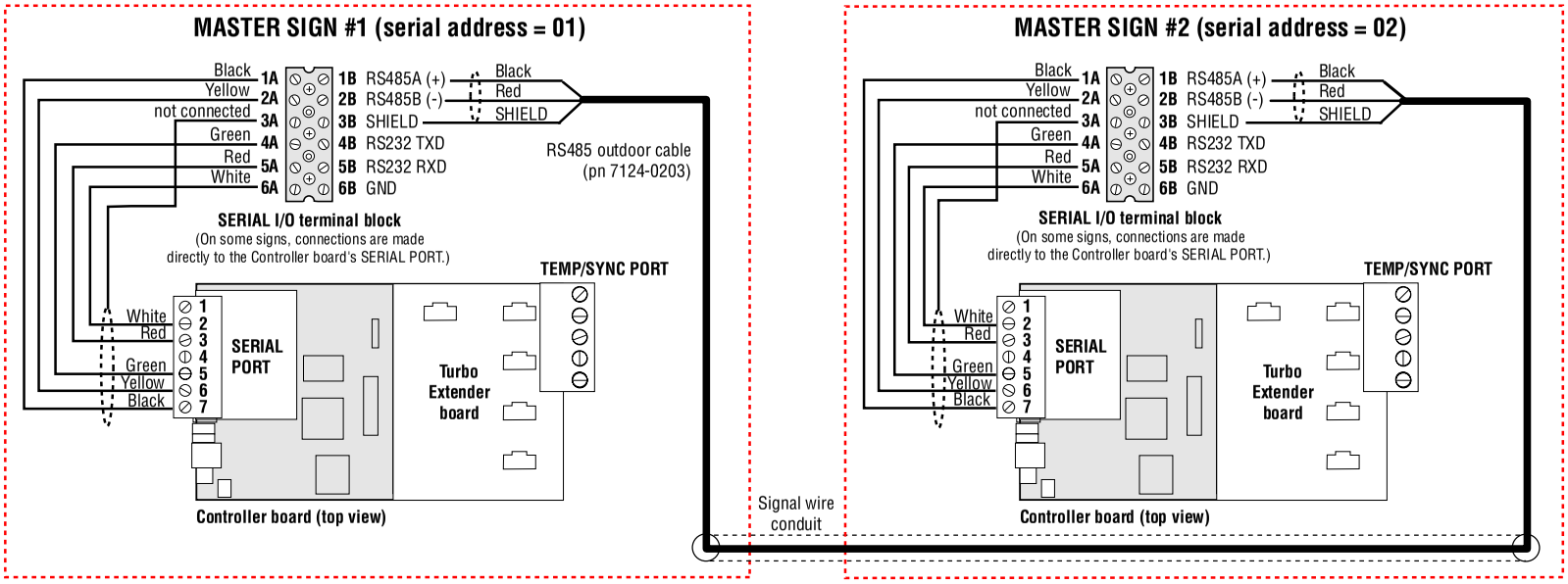
In a Master/Master sign pair, a message can be displayed on Master sign #1 by sending the message to serial address "01" or displayed on Master sign #2 by sending it to serial address "02".

Also, a message can be displayed on both Master signs by broadcasting the message to serial address "00".

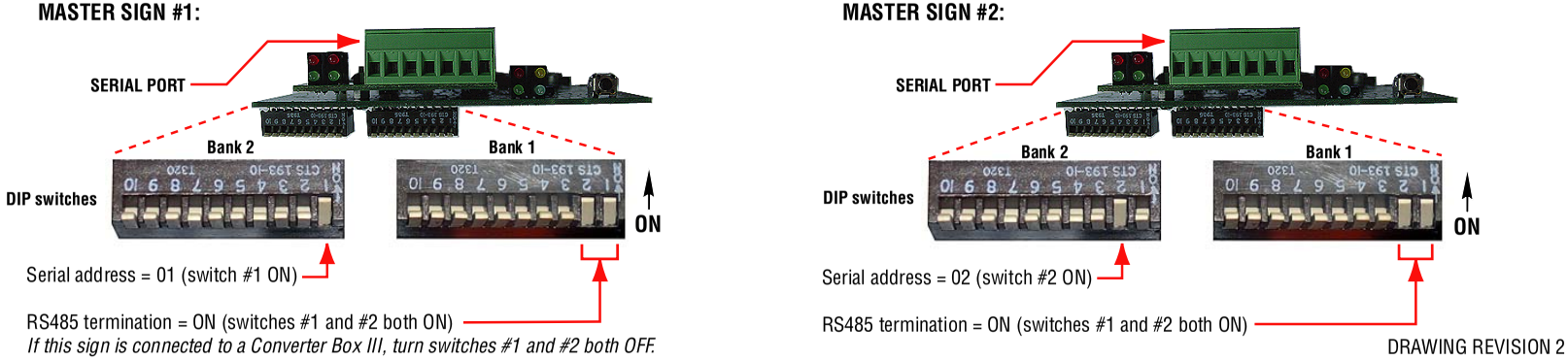
To display the temperature on signs in a Master/Master network, a temperature probe must be connected to *each* sign. Otherwise, the word "ERR" will appear in place of the temperature.

In a Master/Master sign network, the time is synchronized whenever a message is sent using AlphaNET software.

Wiring



DIP switches


MASTER SIGN #1:
SERIAL PORT
Bank 2
Bank 1
DIP switches
ON
Serial address = 01 (switch #1 ON)
RS485 termination = ON (switches #1 and #2 both ON)
If this sign is connected to a Converter Box III, turn switches #1 and #2 both OFF.
MASTER SIGN #2:
SERIAL PORT
Bank 2
Bank 1
DIP switches
ON
Serial address = 02 (switch #2 ON)
RS485 termination = ON (switches #1 and #2 both ON)
DRAWING REVISION 2

Master/Slave sign-to-sign wiring

Master / Slave sign connection — **AlphaEclipse™ 2500/2600/3500**

Overview

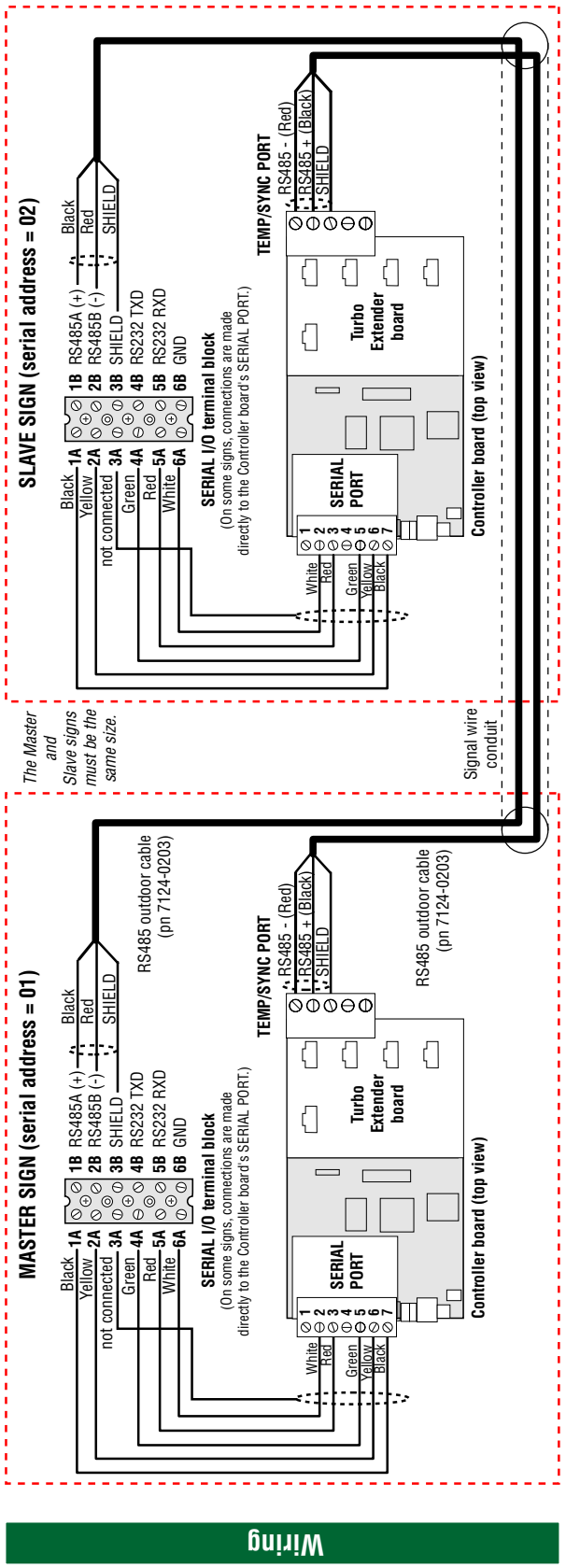
Two signs connected as a Master/Slave pair will both display the *same* message at the *same* time. Messages should be sent to both the Master and Slave signs.

To do this, send all messages to serial address "00" or to *all* the serial addresses ("01", "02", and so on).

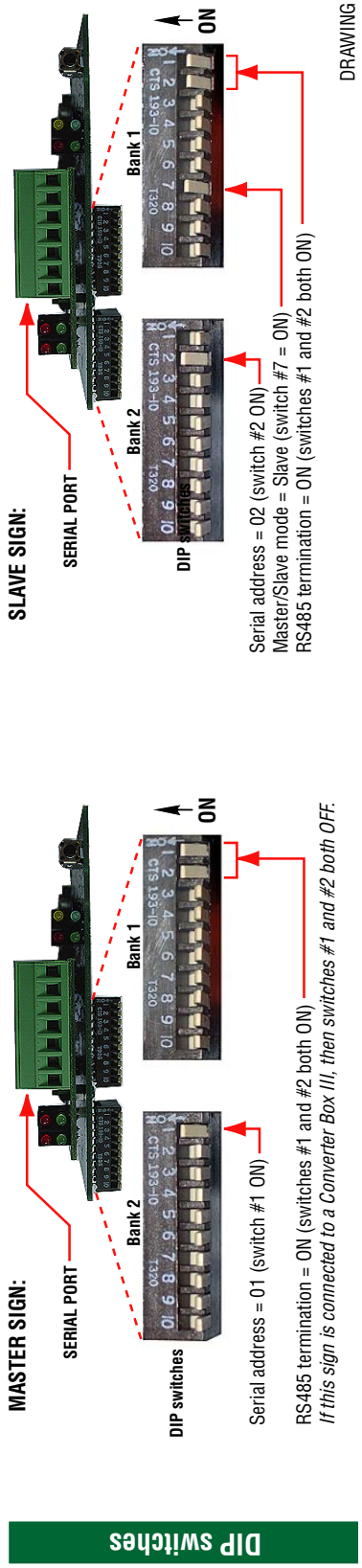
To display the temperature on signs in a Master/Slave network, a temperature probe must be connected to the Master sign.

In Master/Slave sign network, the time is synchronized at the start of each hour *and* whenever a message is sent using AlphaNET software.

Wiring



DIP switches


MASTER SIGN:
SLAVE SIGN:
SERIAL PORT
DIP switches
Bank 1
Bank 2
ON
Serial address = 01 (switch #1 ON)
RS485 termination = ON (switches #1 and #2 both ON)
If this sign is connected to a Converter Box III, then switches #1 and #2 both OFF.
Serial address = 02 (switch #2 ON)
Master/Slave mode = Slave (switch #7 = ON)
RS485 termination = ON (switches #1 and #2 both ON)

DRAWING REVISION 2

Computer-to-sign connections

In order to display messages, a sign must be connected to a computer that is running AlphaNET software. (This computer is referred to as the “messaging computer”).

There are a number of ways to connect the messaging computer to a sign:

Wire

There are several ways to connect a sign directly to a computer:

- Converter box III (page 29) -- using RS485 outdoor wire (pn 7124-0203), a sign can be connected to a computer that could be up to 4000 feet away from the sign.
- Fiber optic (page 30) -- using a factory installed fiber optic mini-modem inside a sign and another mini-modem attached to a computer, a sign can be connected to a computer that could be up to 2 miles away from the sign. Fiber optic cable is immune to electrical interference so the cable can be placed in the same conduit as the sign’s power wires.
- Ethernet (page 31) -- a sign can be connected to an Ethernet network by wiring a Lantronix MSS485 interface to a sign.
- External connection box (page 32 and page 33) -- usually placed close to the sign. Messages are sent to the sign by connecting a computer or IR Message Loader to the connection box.

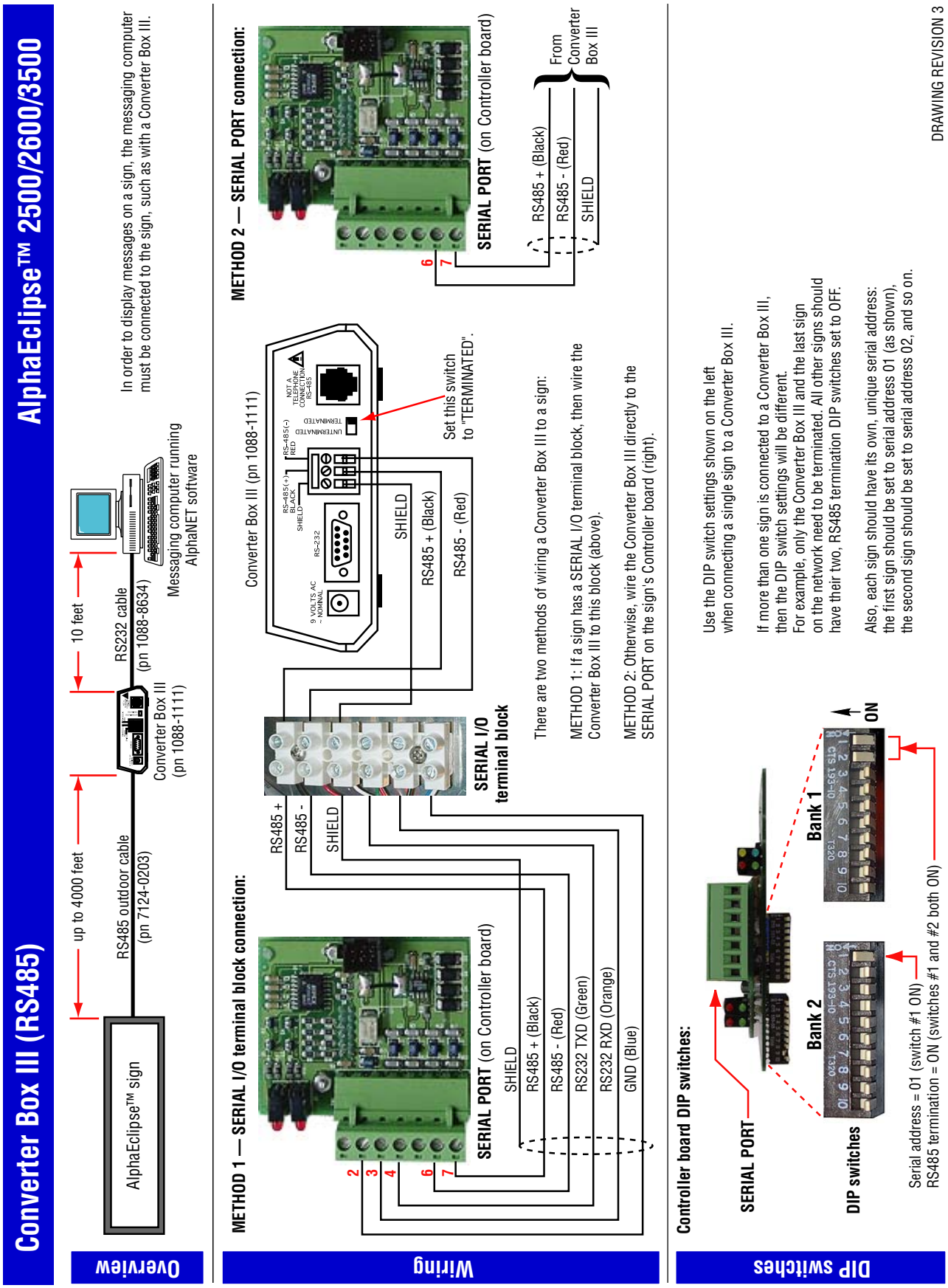
Modem

By placing a factory installed modem inside a sign and attaching another modem to a computer, messages can be sent to a sign through ordinary phone lines (page 34).

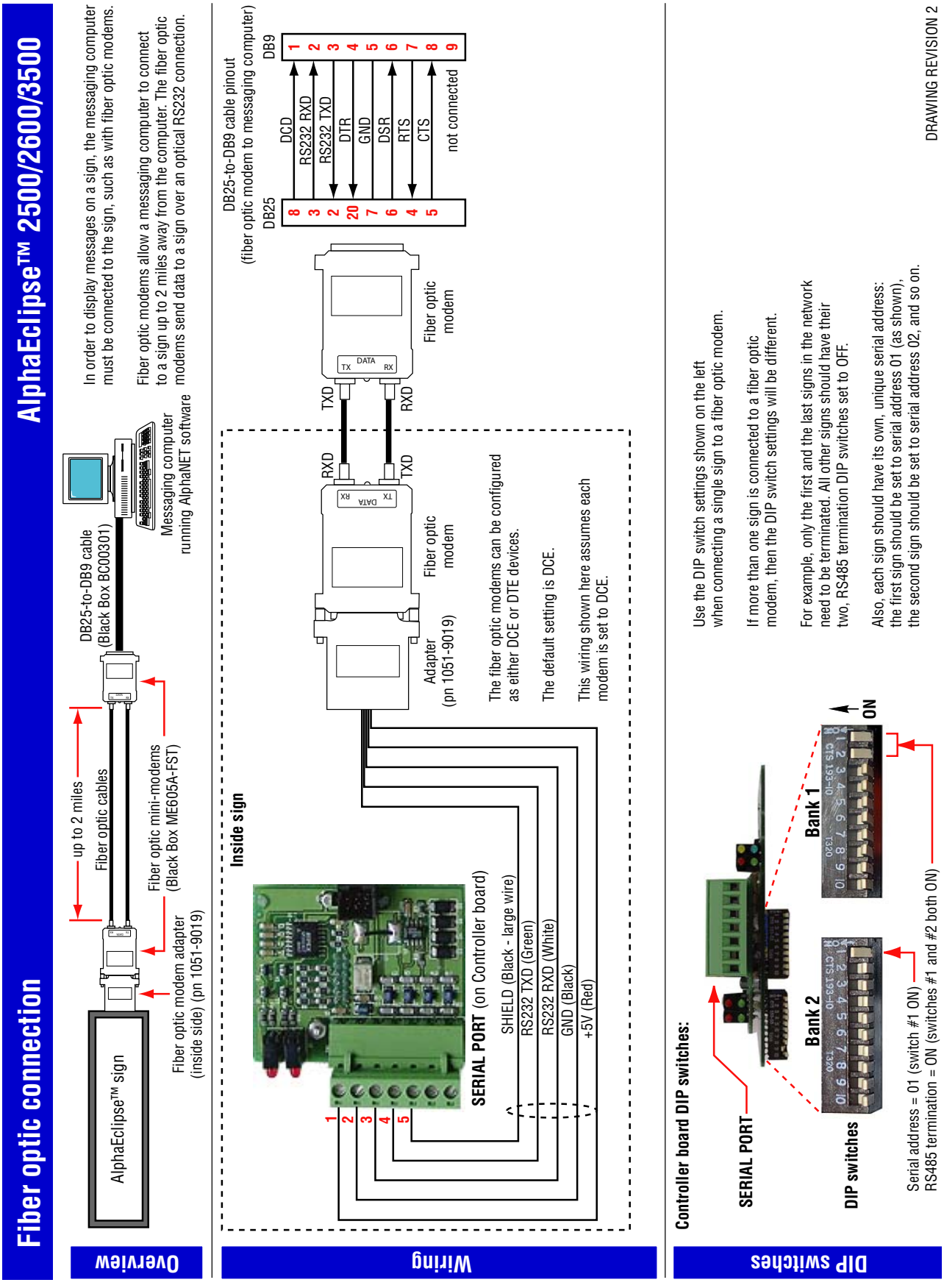
Wireless

For this option, a factory installed wireless transceiver is placed inside the sign and another transceiver is connected to a computer. Wireless transceivers can connect to a sign up to 40 miles away, but actual distance can vary greatly depending on the local environment, obstructions, electrical interference, and so on (page 35, page 36 and page 37).

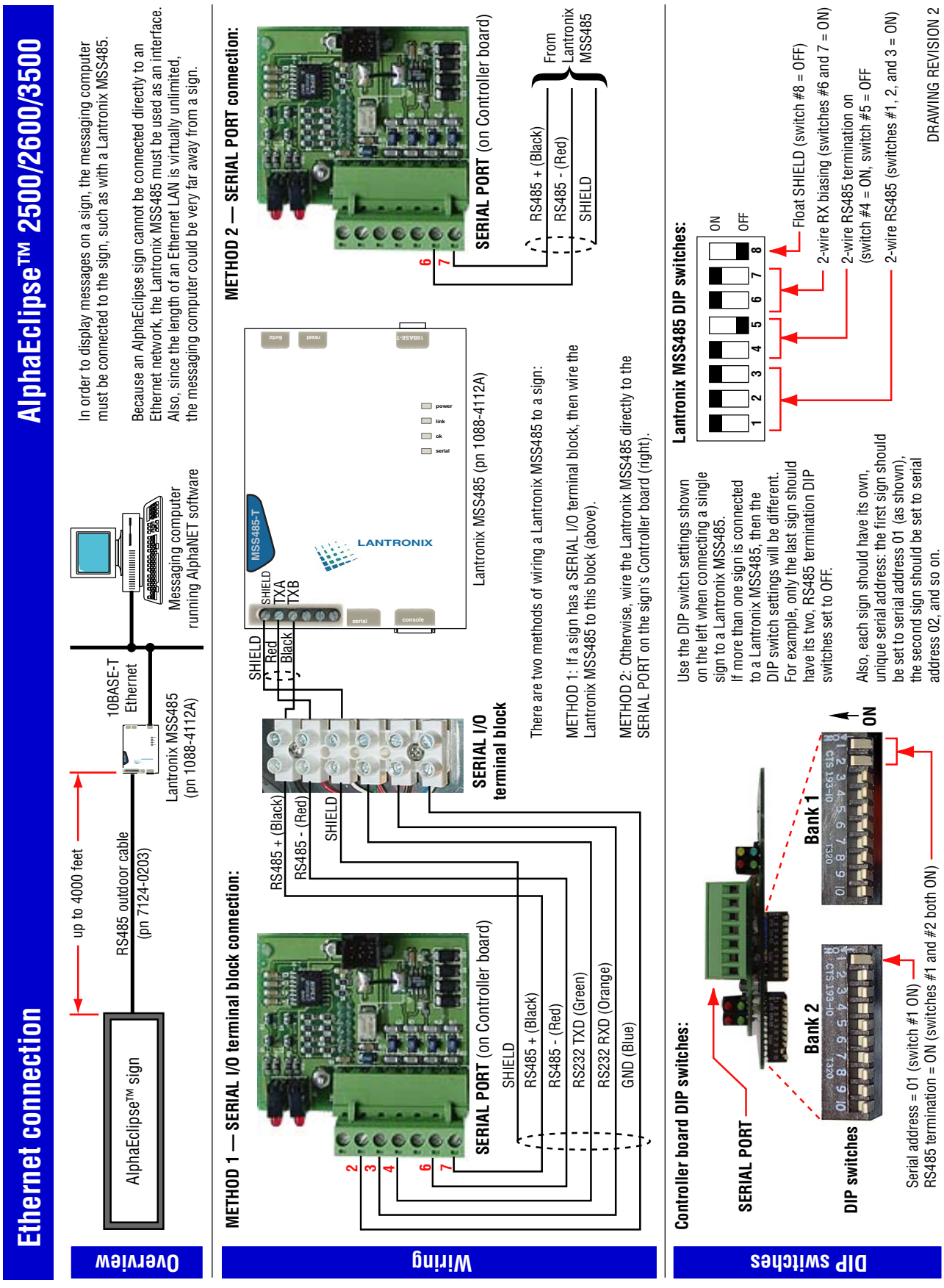
Converter Box III (RS485) computer-to-sign connection


Converter Box III (RS485)
AlphaEclipse™ 2500/2600/3500
Overview
up to 4000 feet
10 feet
RS485 outdoor cable (pn 7124-0203)
RS232 cable (pn 1088-8634)
AlphaEclipse™ sign
Converter Box III (pn 1088-1111)
Messaging computer running AlphaNET software
In order to display messages on a sign, the messaging computer must be connected to the sign, such as with a Converter Box III.
Wiring
METHOD 1 — SERIAL I/O terminal block connection:
RS485 +
RS485 -
SHIELD
SERIAL PORT (on Controller board)
SHIELD
RS485 + (Black)
RS485 - (Red)
RS232 TXD (Green)
RS232 RXD (Orange)
GND (Blue)
2
3
4
6
7
Converter Box III (pn 1088-1111)
SERIAL I/O terminal block
SHIELD
RS485 + (Black)
RS485 - (Red)
Set this switch to "TERMINATED".
There are two methods of wiring a Converter Box III to a sign:
METHOD 1: If a sign has a SERIAL I/O terminal block, then wire the Converter Box III to this block (above).
METHOD 2: Otherwise, wire the Converter Box III directly to the SERIAL PORT on the sign's Controller board (right).
METHOD 2 — SERIAL PORT connection:
SERIAL PORT (on Controller board)
6
7
RS485 + (Black)
RS485 - (Red)
SHIELD
From Converter Box III
DIP switches
Controller board DIP switches:
SERIAL PORT
Bank 1
Bank 2
ON
Use the DIP switch settings shown on the left when connecting a single sign to a Converter Box III.
If more than one sign is connected to a Converter Box III, then the DIP switch settings will be different. For example, only the Converter Box III and the last sign on the network need to be terminated. All other signs should have their two, RS485 termination DIP switches set to OFF.
Also, each sign should have its own, unique serial address: the first sign should be set to serial address 01 (as shown), the second sign should be set to serial address 02, and so on.
Serial address = 01 (switch #1 ON)
RS485 termination = ON (switches #1 and #2 both ON)
DRAWING REVISION 3

Fiber optic computer-to-sign connection

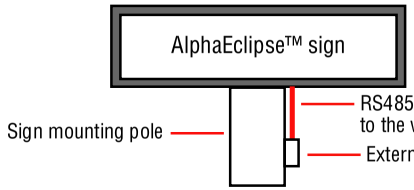

Fiber optic connection
AlphaEclipse™ 2500/2600/3500
Overview
AlphaEclipse™ sign
Fiber optic modem adapter (inside side) (pn 1051-9019)
up to 2 miles
Fiber optic cables
Fiber optic mini-modems (Black Box ME605A-FST)
DB25-to-DB9 cable (Black Box BC00301)
Messaging computer running AlphaNET software
In order to display messages on a sign, the messaging computer must be connected to the sign, such as with fiber optic modems.
Fiber optic modems allow a messaging computer to connect to a sign up to 2 miles away from the computer. The fiber optic modems send data to a sign over an optical RS232 connection.
Wiring
Inside sign
SERIAL PORT (on Controller board)
SHIELD (Black - large wire)
RS232 TXD (Green)
RS232 RXD (White)
GND (Black)
+5V (Red)
Adapter (pn 1051-9019)
Fiber optic modem
RXD
TXD
The fiber optic modems can be configured as either DCE or DTE devices.
The default setting is DCE.
This wiring shown here assumes each modem is set to DCE.
DB25-to-DB9 cable pinout (fiber optic modem to messaging computer)
DB25
DB9
8 DCD 1
3 RS232 RXD 2
2 RS232 TXD 3
20 DTR 4
7 GND 5
6 DSR 6
4 RTS 7
5 CTS 8
not connected 9
DIP switches
Controller board DIP switches:
SERIAL PORT
Bank 1
Bank 2
ON
DIP switches
Use the DIP switch settings shown on the left when connecting a single sign to a fiber optic modem.
If more than one sign is connected to a fiber optic modem, then the DIP switch settings will be different.
For example, only the first and the last signs in the network need to be terminated. All other signs should have their two, RS485 termination DIP switches set to OFF.
Also, each sign should have its own, unique serial address: the first sign should be set to serial address 01 (as shown), the second sign should be set to serial address 02, and so on.
Serial address = 01 (switch #1 ON)
RS485 termination = ON (switches #1 and #2 both ON)
DRAWING REVISION 2

Ethernet computer-to-sign connection


Ethernet connection
AlphaEclipse™ 2500/2600/3500
Overview
AlphaEclipse™ sign
up to 4000 feet
RS485 outdoor cable
(pn 7124-0203)
Lantronix MSS485
(pn 1088-4112A)
10BASE-T
Ethernet
Messaging computer
running AlphaNET software
In order to display messages on a sign, the messaging computer must be connected to the sign, such as with a Lantronix MSS485.
Because an AlphaEclipse sign cannot be connected directly to an Ethernet network, the Lantronix MSS485 must be used as an interface. Also, since the length of an Ethernet LAN is virtually unlimited, the messaging computer could be very far away from a sign.
Wiring
METHOD 1 — SERIAL I/O terminal block connection:
SERIAL PORT (on Controller board)
SHIELD
RS485 + (Black)
RS485 - (Red)
RS232 TXD (Green)
RS232 RXD (Orange)
GND (Blue)
RS485 + (Black)
RS485 - (Red)
SHIELD
SERIAL I/O terminal block
SHIELD
Red
Black
TXA
TXB
MSS485-T
LANTRONIX
power
link
ok
serial
reset
10BASE-T
serial
console
Lantronix MSS485 (pn 1088-4112A)
There are two methods of wiring a Lantronix MSS485 to a sign:
METHOD 1: If a sign has a SERIAL I/O terminal block, then wire the Lantronix MSS485 to this block (above).
METHOD 2: Otherwise, wire the Lantronix MSS485 directly to the SERIAL PORT on the sign's Controller board (right).
METHOD 2 — SERIAL PORT connection:
SERIAL PORT (on Controller board)
RS485 + (Black)
RS485 - (Red)
SHIELD
From Lantronix MSS485
DIP switches
Controller board DIP switches:
SERIAL PORT
DIP switches
Bank 1
Bank 2
ON
Serial address = 01 (switch #1 ON)
RS485 termination = ON (switches #1 and #2 both ON)
Use the DIP switch settings shown on the left when connecting a single sign to a Lantronix MSS485.
If more than one sign is connected to a Lantronix MSS485, then the DIP switch settings will be different. For example, only the last sign should have its two, RS485 termination DIP switches set to OFF.
Also, each sign should have its own, unique serial address: the first sign should be set to serial address 01 (as shown), the second sign should be set to serial address 02, and so on.
Lantronix MSS485 DIP switches:
ON
OFF
1 2 3 4 5 6 7 8
Float SHIELD (switch #8 = OFF)
2-wire RX biasing (switches #6 and 7 = ON)
2-wire RS485 termination on (switch #4 = ON, switch #5 = OFF
2-wire RS485 (switches #1, 2, and 3 = ON)
DRAWING REVISION 2
DIP switches

External connection box (RS232) — for a computer connection — AlphaEclipse™ 2500/2600/3500

Overview


AlphaEclipse™ sign
Sign mounting pole
RS485 outdoor cable (pn 7124-0203) can be used if the bare shield wire is connected to the white terminal (GND) on the 6-position Modular Network Adapter.
External connection box

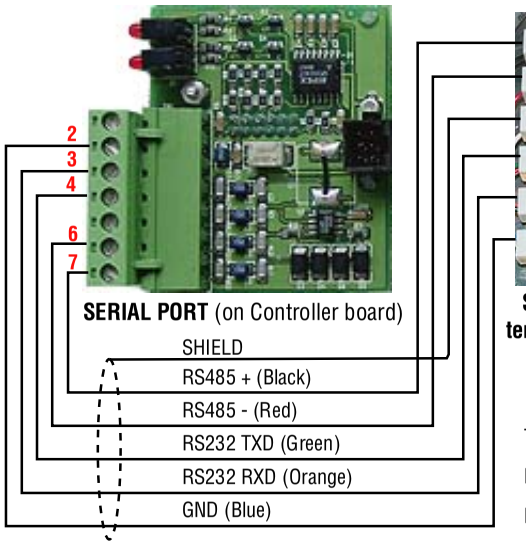
In order to display messages on a sign or troubleshoot a sign, a messaging computer can be connected directly to a sign.

The computer must have an external 9-pin RS232 COM port available.

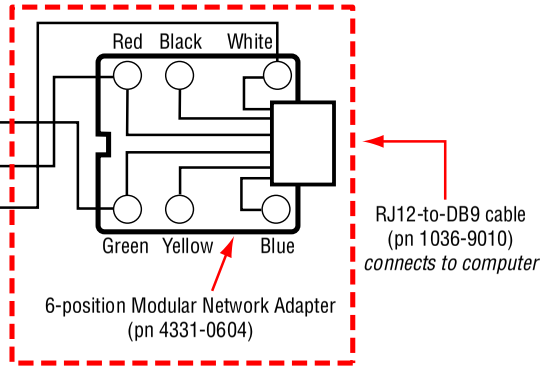
The RS232 External connection box can be up to 50 feet from a sign.

Wiring

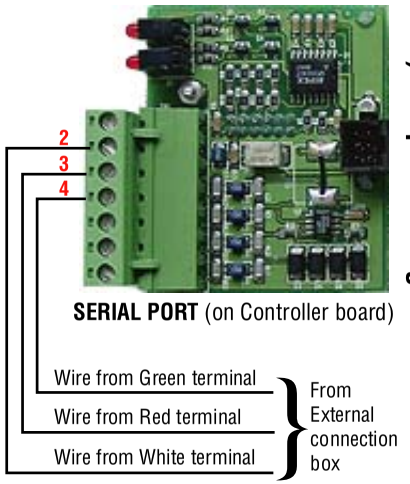
METHOD 1 — SERIAL I/O terminal block connection:



RS232 External connection box (dotted line below)
This is just a waterproof enclosure with a 6-position Modular Network Adapter inside.



METHOD 2 — SERIAL PORT connection



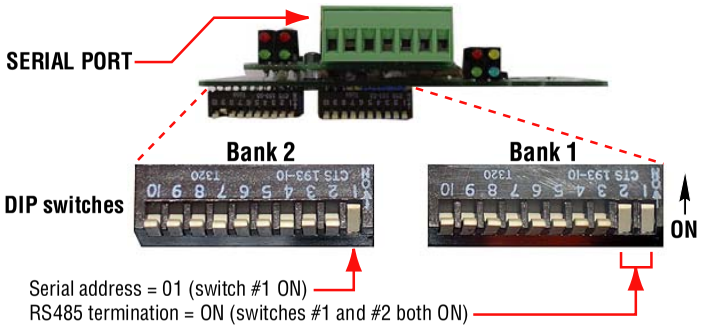
There are two methods of wiring an External connection box to a sign:

METHOD 1: If a sign has a SERIAL I/O terminal block, then wire the box to this block (above).

METHOD 2: Otherwise, wire the box directly to the SERIAL PORT on the sign's Controller board (right).

DIP switches

Controller board DIP switches:



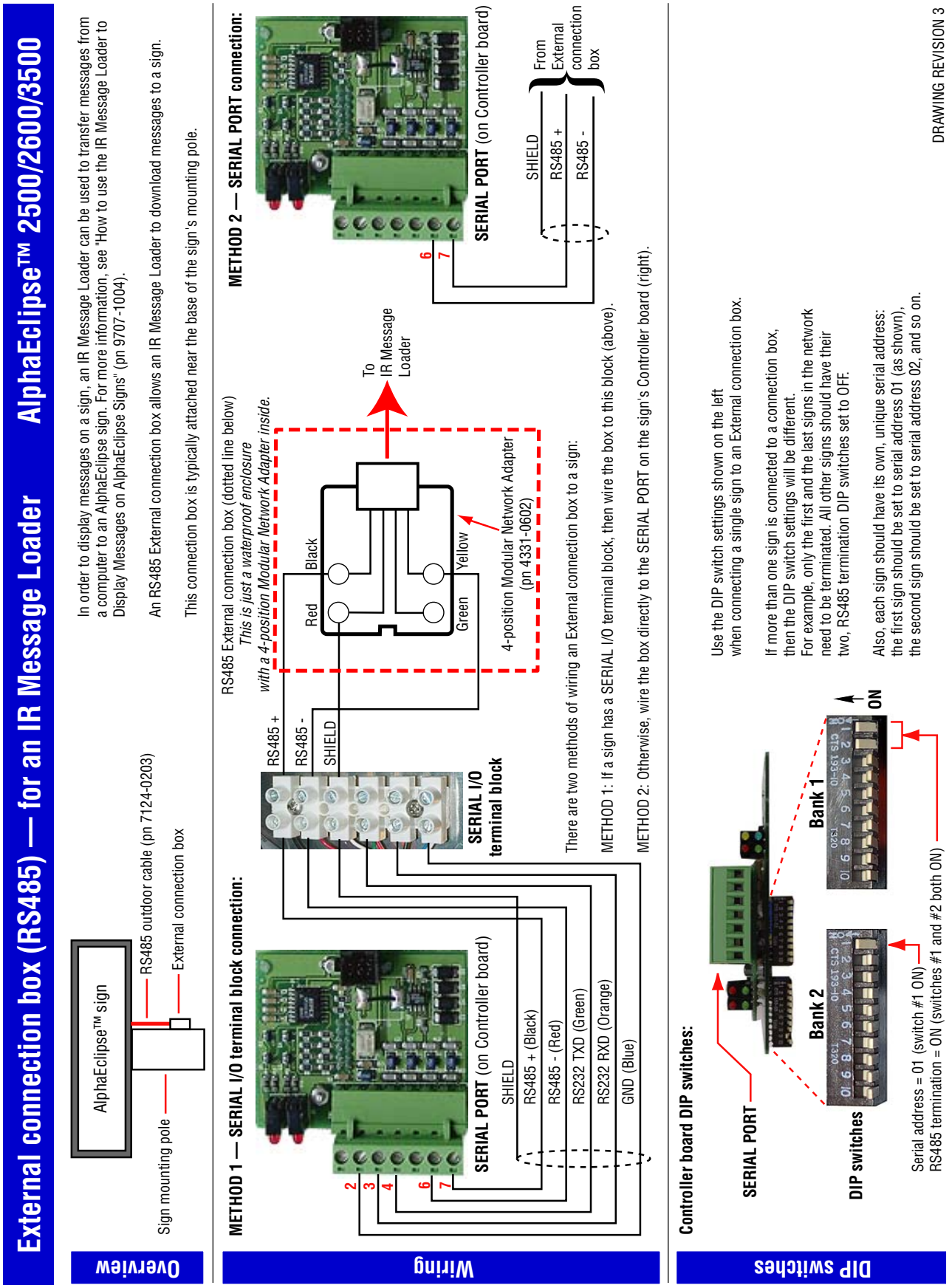
Use the DIP switch settings shown on the left when connecting a single sign to an External connection box.

If more than one sign is connected to a connection box, then the DIP switch settings will be different. For example, only the first and the last signs in the network need to be terminated. All other signs should have their two, RS485 termination DIP switches set to OFF.

Also, each sign should have its own, unique serial address: the first sign should be set to serial address 01 (as shown), the second sign should be set to serial address 02, and so on.

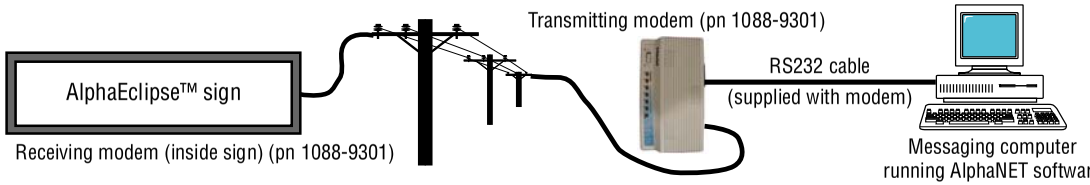
DRAWING REVISION 2

External connection box (RS485) computer-to-sign connection


External connection box (RS485) — for an IR Message Loader
AlphaEclipse™ 2500/2600/3500
Overview
In order to display messages on a sign, an IR Message Loader can be used to transfer messages from a computer to an AlphaEclipse sign. For more information, see "How to use the IR Message Loader to Display Messages on AlphaEclipse Signs" (pn 9707-1004).
An RS485 External connection box allows an IR Message Loader to download messages to a sign.
This connection box is typically attached near the base of the sign's mounting pole.
AlphaEclipse™ sign
RS485 outdoor cable (pn 7124-0203)
External connection box
Sign mounting pole
Wiring
METHOD 1 — SERIAL I/O terminal block connection:
SERIAL PORT (on Controller board)
SHIELD
RS485 + (Black)
RS485 - (Red)
RS232 TXD (Green)
RS232 RXD (Orange)
GND (Blue)
2
3
4
6
7
RS485 +
RS485 -
SHIELD
SERIAL I/O terminal block
RS485 External connection box (dotted line below)
This is just a waterproof enclosure
with a 4-position Modular Network Adapter inside.
Red
Black
Green
Yellow
4-position Modular Network Adapter
(pn 4331-0602)
To
IR Message
Loader
There are two methods of wiring an External connection box to a sign:
METHOD 1: If a sign has a SERIAL I/O terminal block, then wire the box to this block (above).
METHOD 2: Otherwise, wire the box directly to the SERIAL PORT on the sign's Controller board (right).
METHOD 2 — SERIAL PORT connection:
SERIAL PORT (on Controller board)
6
7
SHIELD
RS485 +
RS485 -
From
External
connection
box
DIP switches
Controller board DIP switches:
SERIAL PORT
Bank 1
Bank 2
ON
DIP switches
Use the DIP switch settings shown on the left when connecting a single sign to an External connection box.
If more than one sign is connected to a connection box, then the DIP switch settings will be different. For example, only the first and the last signs in the network need to be terminated. All other signs should have their two, RS485 termination DIP switches set to OFF.
Also, each sign should have its own, unique serial address: the first sign should be set to serial address 01 (as shown), the second sign should be set to serial address 02, and so on.
Serial address = 01 (switch #1 ON)
RS485 termination = ON (switches #1 and #2 both ON)
DRAWING REVISION 3

Modem connection

Overview

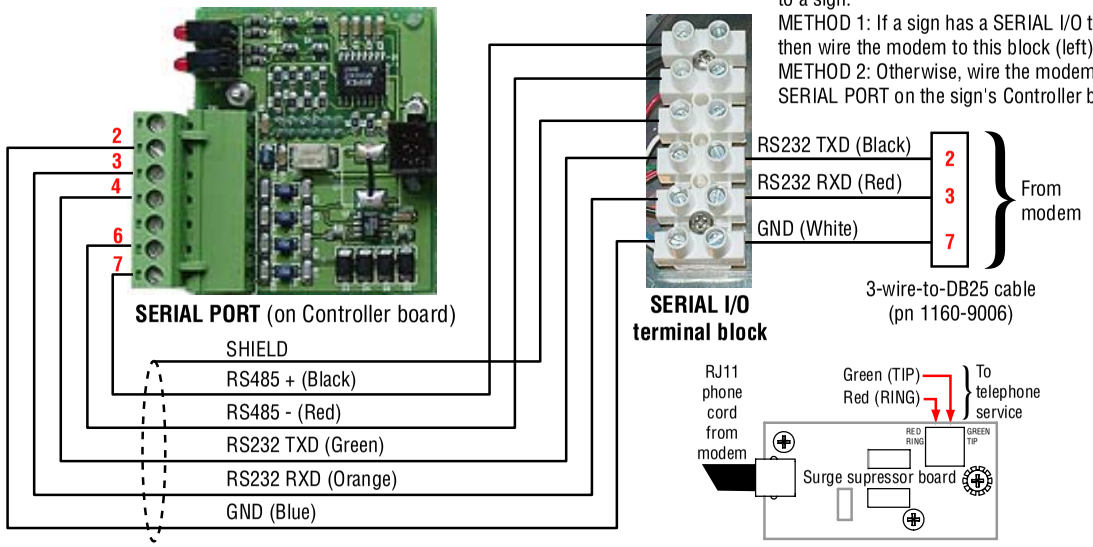


In order to display messages on a sign, the messaging computer must be connected to the sign, such as with a pair of telephone modems (a Transmitting modem attached to the messaging computer and a Receiving modem attached to a sign).

Modems can connect to a sign that is almost anywhere. However, a sign must have its own phone line.

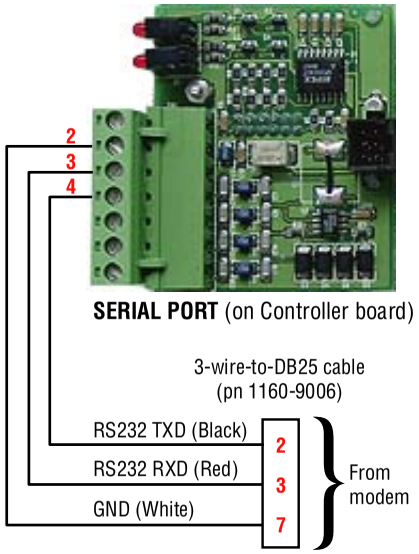
Wiring

METHOD 1 — SERIAL I/O terminal block connection:



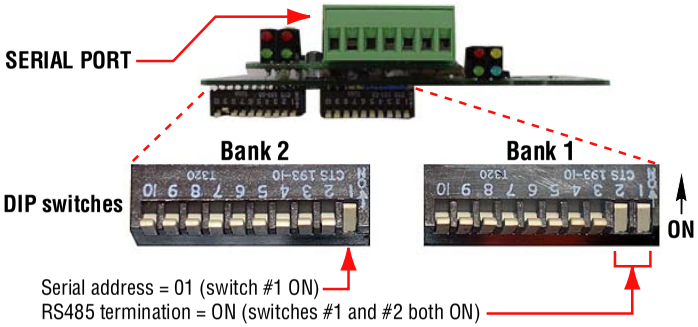
There are two methods of wiring the Receiving modem to a sign:
METHOD 1: If a sign has a SERIAL I/O terminal block, then wire the modem to this block (left).
METHOD 2: Otherwise, wire the modem directly to the SERIAL PORT on the sign's Controller board (right).

METHOD 2 — SERIAL PORT connection:



DIP switches

Controller board DIP switches:

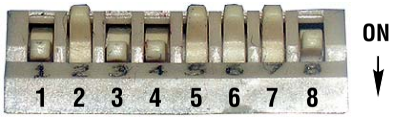


Use the DIP switch settings shown on the left when connecting a single sign to a modem.

If more than one sign is connected to a modem, then the DIP switch settings will be different. For example, only the first and the last signs in the network need to be terminated. All other signs should have their two, RS485 termination DIP switches set to OFF.

Also, each sign should have its own, unique serial address: the first sign should be set to serial address 01 (as shown), the second sign should be set to serial address 02, and so on.

Modem DIP switch settings:



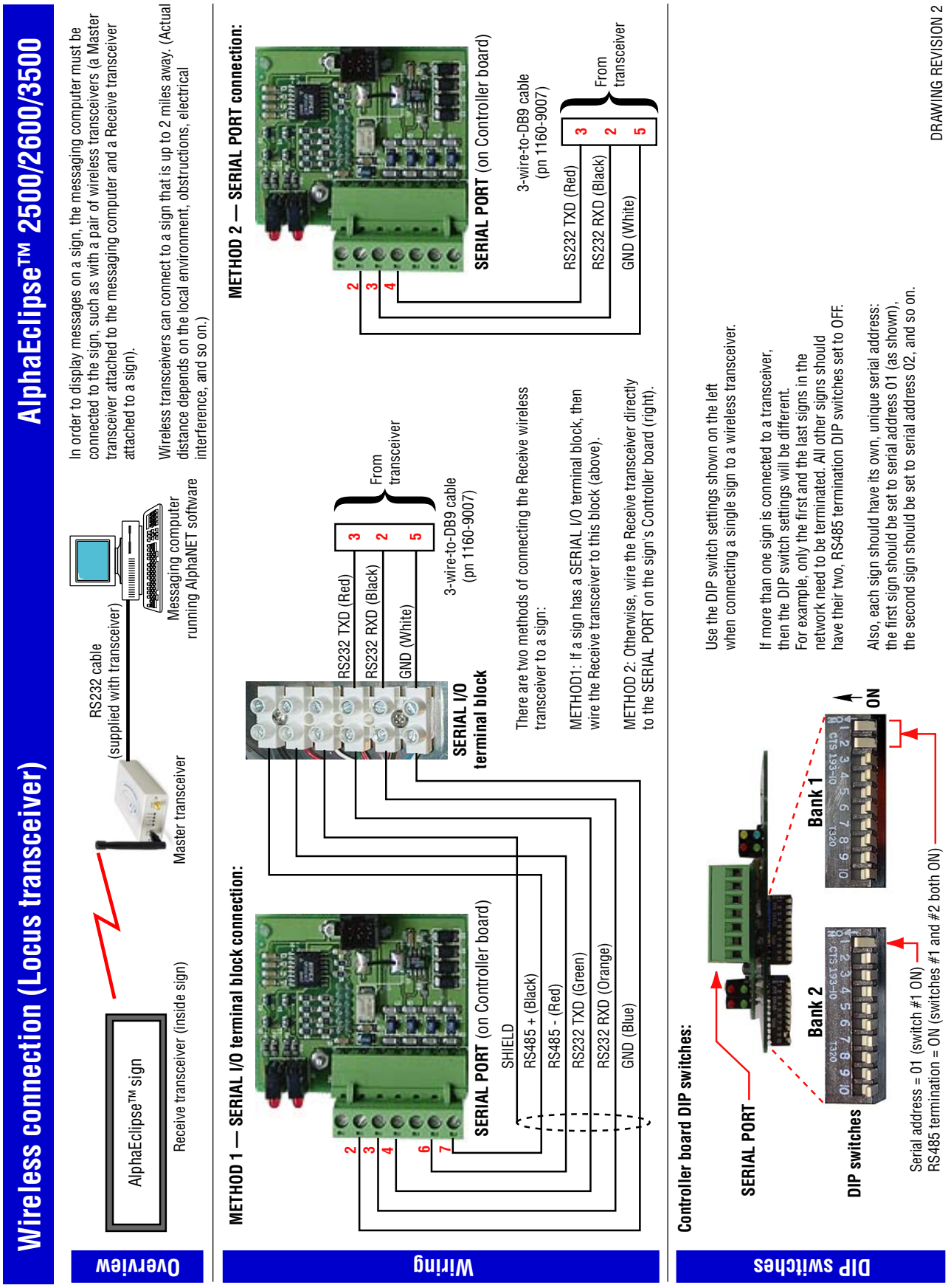
Switch #1 = ON (Modem ignores DTR)
Switch #3 = ON (Display result codes)
Switch #4 = ON (Do not echo offline commands)
Switch #8 = ON (Recognize AT commands)

Modem AT command setup string:

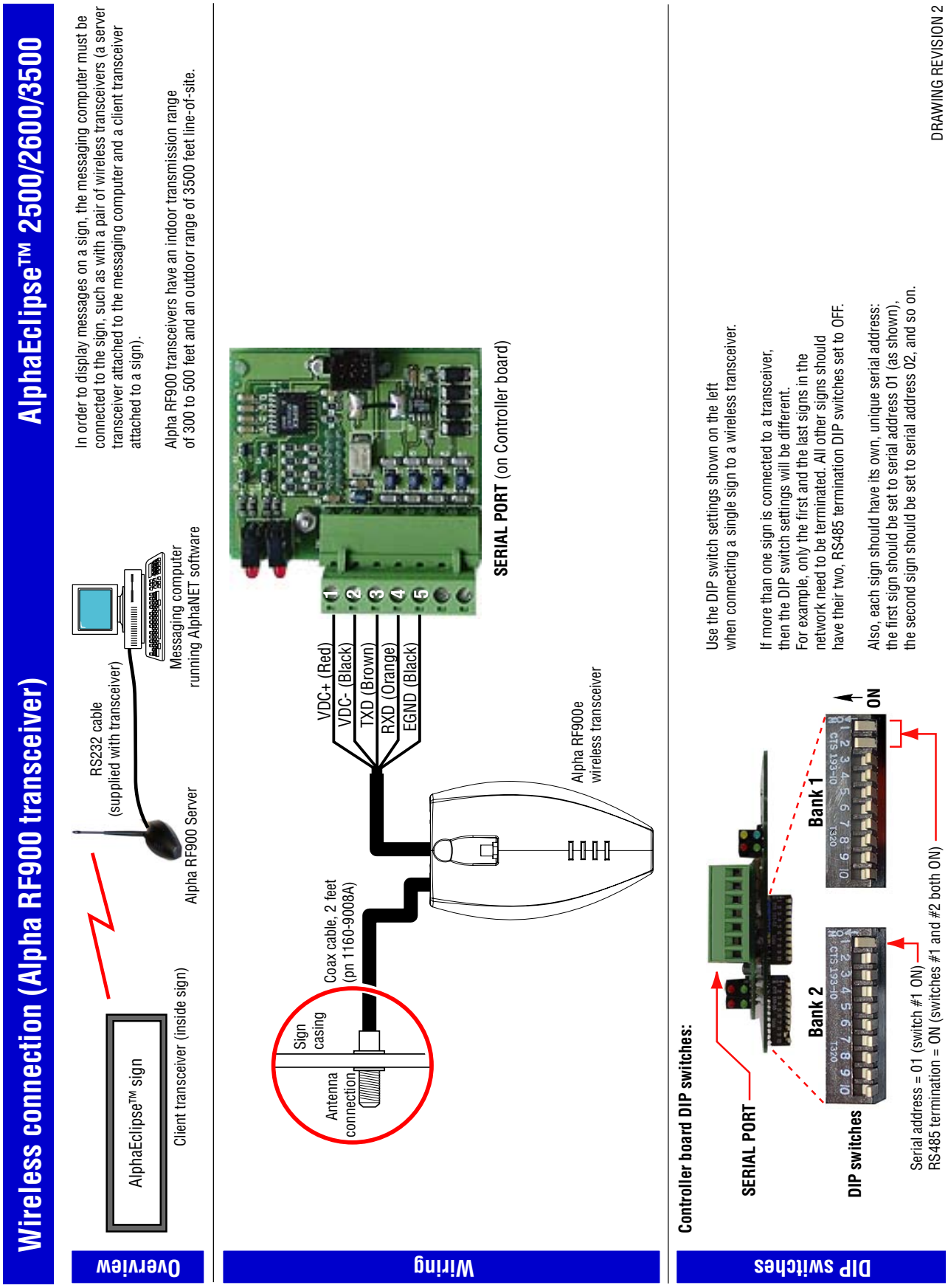
`AT&H0&R1&B1&N6&Y0&W0`

DRAWING REVISION 2

Wireless (Locus transceiver) computer-to-sign connection


Wireless connection (Locus transceiver)
AlphaEclipse™ 2500/2600/3500
Overview
AlphaEclipse™ sign
Receive transceiver (inside sign)
RS232 cable (supplied with transceiver)
Master transceiver
Messaging computer running AlphaNET software
In order to display messages on a sign, the messaging computer must be connected to the sign, such as with a pair of wireless transceivers (a Master transceiver attached to the messaging computer and a Receive transceiver attached to a sign).
Wireless transceivers can connect to a sign that is up to 2 miles away. (Actual distance depends on the local environment, obstructions, electrical interference, and so on.)
Wiring
METHOD 1 — SERIAL I/O terminal block connection:
SERIAL PORT (on Controller board)
SHIELD
RS485 + (Black)
RS485 - (Red)
RS232 TXD (Green)
RS232 RXD (Orange)
GND (Blue)
SERIAL I/O terminal block
RS232 TXD (Red)
RS232 RXD (Black)
GND (White)
3-wire-to-DB9 cable (pn 1160-9007)
From transceiver
There are two methods of connecting the Receive wireless transceiver to a sign:
METHOD1: If a sign has a SERIAL I/O terminal block, then wire the Receive transceiver to this block (above).
METHOD 2: Otherwise, wire the Receive transceiver directly to the SERIAL PORT on the sign's Controller board (right).
METHOD 2 — SERIAL PORT connection:
SERIAL PORT (on Controller board)
3-wire-to-DB9 cable (pn 1160-9007)
From transceiver
RS232 TXD (Red)
RS232 RXD (Black)
GND (White)
DIP switches
Controller board DIP switches:
SERIAL PORT
Bank 1
Bank 2
ON
DIP switches
Use the DIP switch settings shown on the left when connecting a single sign to a wireless transceiver.
If more than one sign is connected to a transceiver, then the DIP switch settings will be different. For example, only the first and the last signs in the network need to be terminated. All other signs should have their two, RS485 termination DIP switches set to OFF.
Also, each sign should have its own, unique serial address: the first sign should be set to serial address 01 (as shown), the second sign should be set to serial address 02, and so on.
Serial address = 01 (switch #1 ON)
RS485 termination = ON (switches #1 and #2 both ON)
DRAWING REVISION 2

Wireless (Alpha RF900 transceiver) computer-to-sign connection


Wireless connection (Alpha RF900 transceiver)
AlphaEclipse™ 2500/2600/3500
Overview
AlphaEclipse™ sign
Client transceiver (inside sign)
RS232 cable (supplied with transceiver)
Alpha RF900 Server
Messaging computer running AlphaNET software
In order to display messages on a sign, the messaging computer must be connected to the sign, such as with a pair of wireless transceivers (a server transceiver attached to the messaging computer and a client transceiver attached to a sign).
Alpha RF900 transceivers have an indoor transmission range of 300 to 500 feet and an outdoor range of 3500 feet line-of-site.
Wiring
SERIAL PORT (on Controller board)
VDC+ (Red)
VDC- (Black)
TXD (Brown)
RXD (Orange)
EGND (Black)
Alpha RF900e wireless transceiver
Coax cable, 2 feet (pn 1160-9008A)
Sign casing
Antenna connection
DIP switches
Controller board DIP switches:
SERIAL PORT
Bank 2
Bank 1
ON
Use the DIP switch settings shown on the left when connecting a single sign to a wireless transceiver.
If more than one sign is connected to a transceiver, then the DIP switch settings will be different. For example, only the first and the last signs in the network need to be terminated. All other signs should have their two, RS485 termination DIP switches set to OFF.
Also, each sign should have its own, unique serial address: the first sign should be set to serial address 01 (as shown), the second sign should be set to serial address 02, and so on.
Serial address = 01 (switch #1 ON)
RS485 termination = ON (switches #1 and #2 both ON)
DRAWING REVISION 2

Wireless (MaxStream XTend 900MHz Transceiver) computer-to-sign connection

Wireless connection (MaxStream XTend 900MHz Transceiver) — AlphaEclipse 2500/2600/3500

Overview

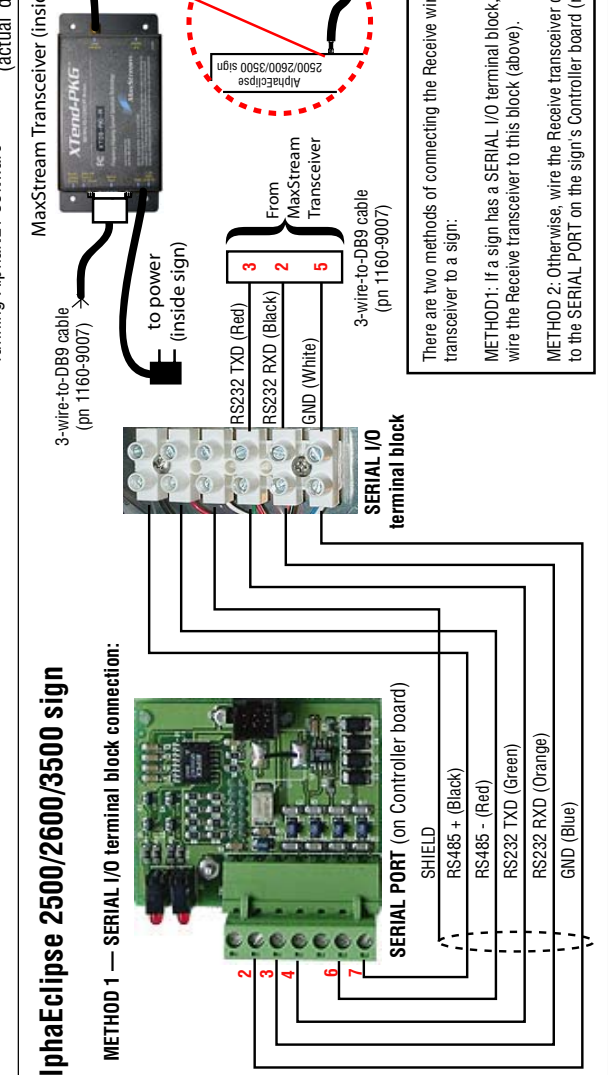
In order to display messages on a sign, the messaging computer must be connected to the sign, such as with a pair of wireless transceivers (a server transceiver attached to the messaging computer and a client transceiver attached to a sign).

At 9600 baud, MaxStream XTend transceivers have an indoor transmission range of up to 3000 feet and an outdoor range of up to 40 miles line-of-site (actual distance may vary).

Wiring

AlphaEclipse 2500/2600/3500 sign

METHOD 1 — SERIAL I/O terminal block connection:

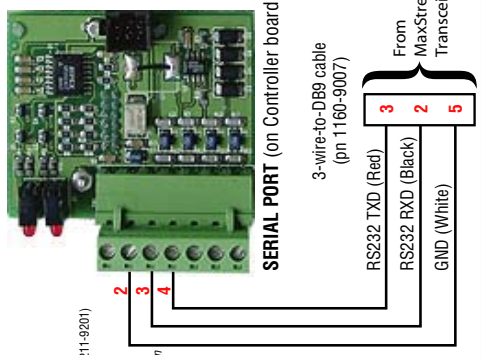


There are two methods of connecting the Receive wireless transceiver to a sign:

METHOD1: If a sign has a SERIAL I/O terminal block, then wire the Receive transceiver to this block (above).

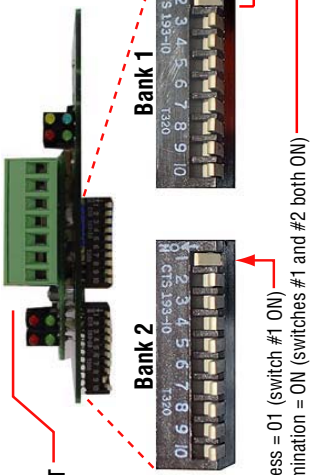
METHOD 2: Otherwise, wire the Receive transceiver directly to the SERIAL PORT on the sign's Controller board (right).

METHOD 2 — SERIAL PORT connection:



DIP switches

Controller board DIP switches:



Use the DIP switch settings shown on the left when connecting a single sign to a wireless transceiver.

If more than one sign is connected to a transceiver, then the DIP switch settings will be different. For example, only the first and the last signs in the network need to be terminated. All other signs should have their two, RS485 termination DIP switches set to OFF.

Also, each sign should have its own, unique serial address: the first sign should be set to serial address 01 (as shown), the second sign should be set to serial address 02, and so on.

Appendix

Serial address of a sign

The serial address of a sign is a number used to identify one sign from another when messages are sent.

Each AlphaEclipse is factory programmed with a serial address. Though a sign's address can be changed, it is usually not necessary or desirable to do so.

There are two ways to determine a sign's serial address:

Method 1

Look on the back of the sign. A label similar to the following will identify a sign's serial address and whether the sign is set up as a Master or a Slave sign:

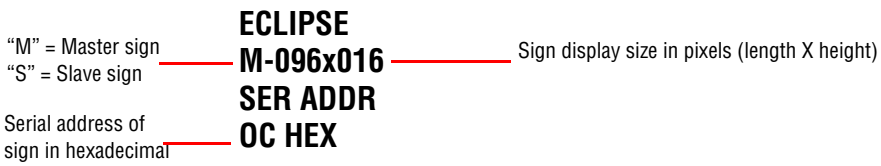
Master/Master sign labels

Master/Slave sign labels

Method 2

Remove power to the sign and then reapply power. A series of startup messages will appear on the sign. Look for text similar to the following:

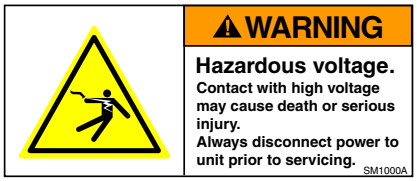
Hex	Decimal
00	0
01	1
.	.
09	9
0A	10
0B	11
0C	12
0D	13
0E	14
0f	15



Opening and Closing an AlphaEclipse 2500/2600 sign

Remove power from the sign

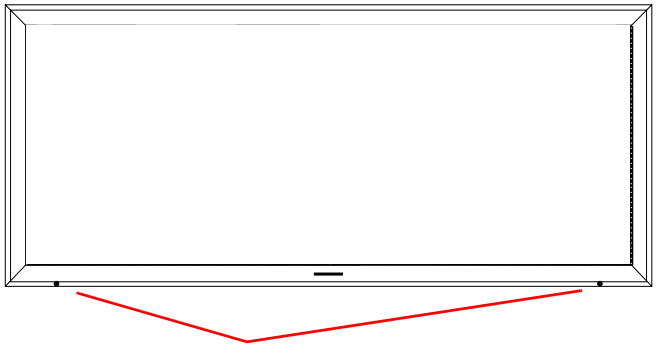
1. Remove power from the sign.


⚠WARNING
Hazardous voltage.
Contact with high voltage may cause death or serious injury.
Always disconnect power to unit prior to servicing.
SM1000A

Unlock and open the door

2. Use the pn 6811-7149 latchkey to open the locking latches which are located along the lower edge of the sign's front.

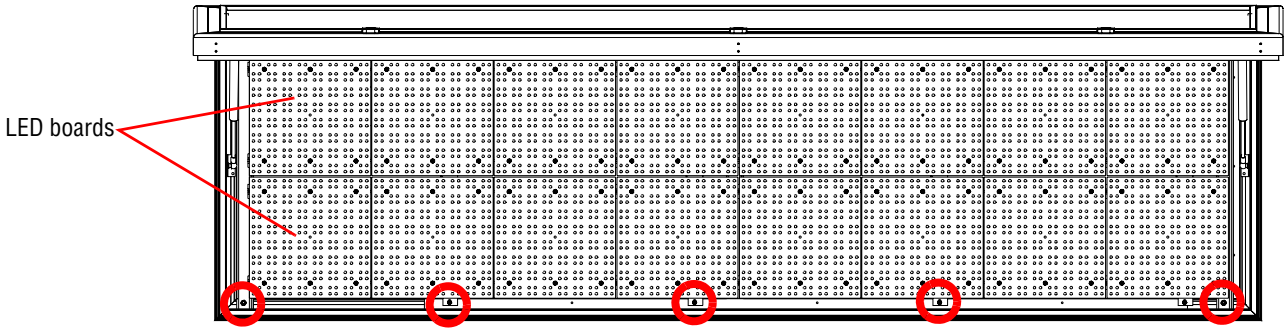
Latch key
(pn 6811-7149)



3. Stand away from the front of the unit. Then lift the door upward. Swing each safety bar up and attach it to the bolt inside the sign using the supplied wing nut. (See Figure 2 on page 40.)

Raise the LED boards

4. Remove the rail screws (circled below) at the bottom of each internal vertical rail. The number of rail screws varies with the size of the sign:



5. Carefully lift the LED boards up by placing your fingers in the mounting rail holes-- not underneath an LED board.

6. Unfasten each red prop rod from underneath the LED boards. Then place each rod in its fastener hole:

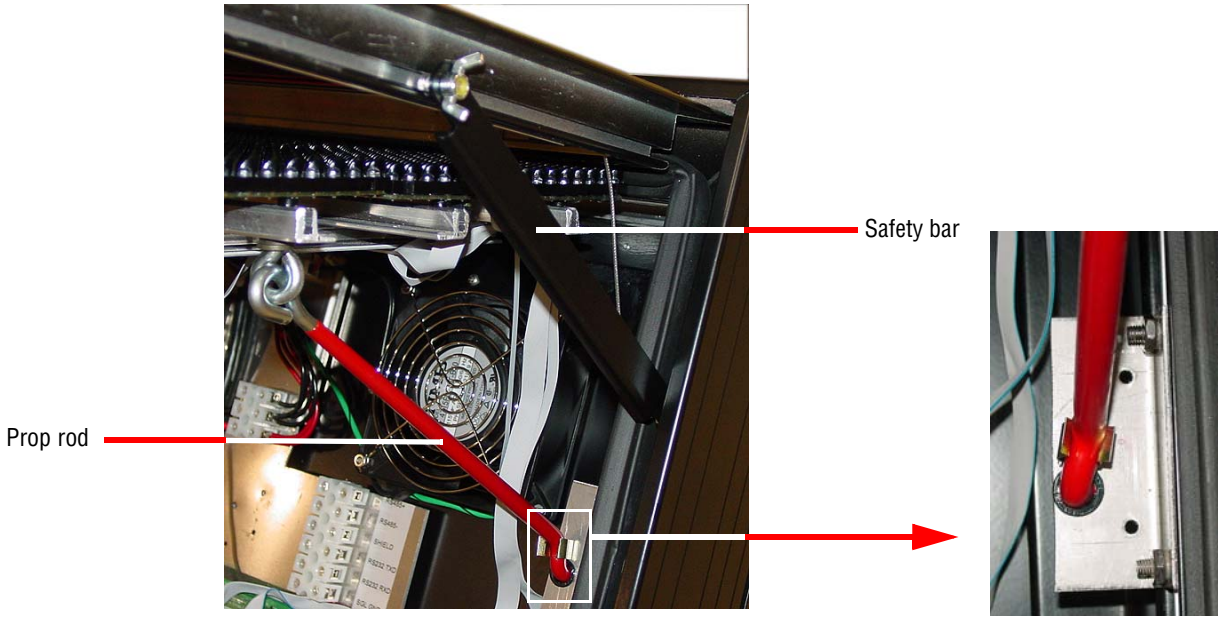


Figure 2: Safety bar and prop rod

7. After the LED boards are raised and all the prop rods are fastened, turn off the signs internal power switch by pressing **0** on the switch.

Closing the sign

1. Push 1 on the sign's internal power switch
2. Raise each red prop rod out of its hole and fasten each rod to a clip underneath the LED boards

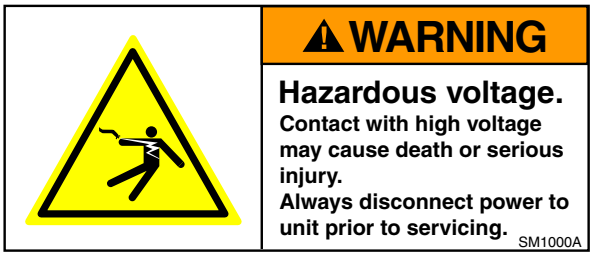
NOTE: If a prop rod is not fastened, it could swing free and damage internal sign components.

3. Lower the LED boards.
4. Refasten rail screws to the internal vertical rails.
5. Unfasten each safety bar and place inside the sign.
6. Lower the sign's door.
7. Using the latch key, turn each locking latch to lock the door shut.
8. Apply power to the sign.

Opening and Closing an AlphaEclipse 3500 sign

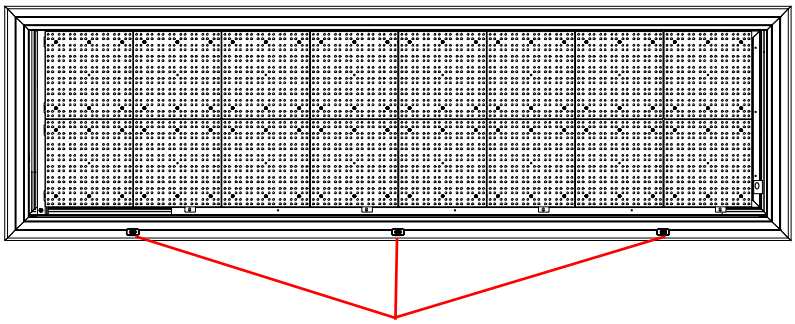
Remove power from the sign

1. Remove power from the sign.


⚠WARNING
Hazardous voltage.
Contact with high voltage may cause death or serious injury.
Always disconnect power to unit prior to servicing.
SM1000A

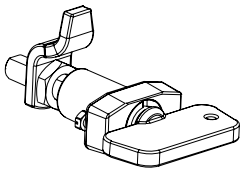
Open the AlphaEclipse 3500 sign

2. Use the pn 6811-6061 latch key to unlock and open the latches along the lower edge of the sign's front:

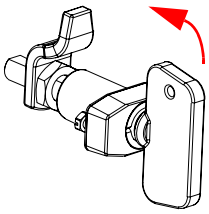


Locking Latches

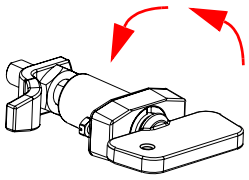
pn 6811-6061 latch key



Locking latch, closed, with latch key inserted



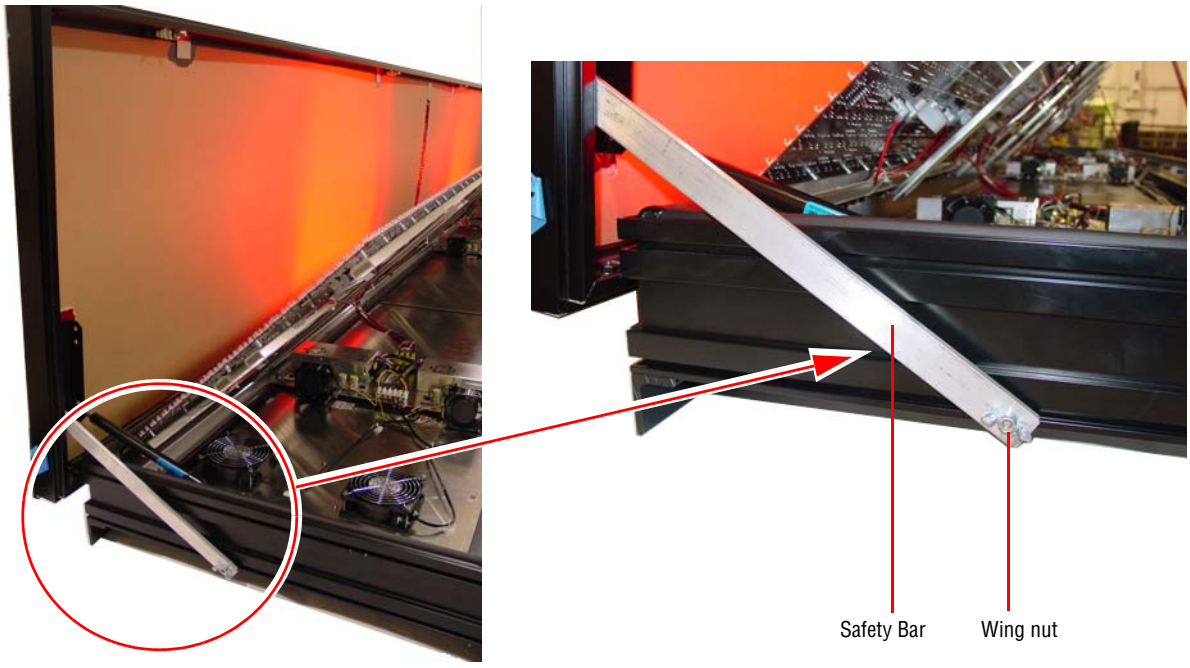
Turn latch key 90 to the left to release initial lock tension



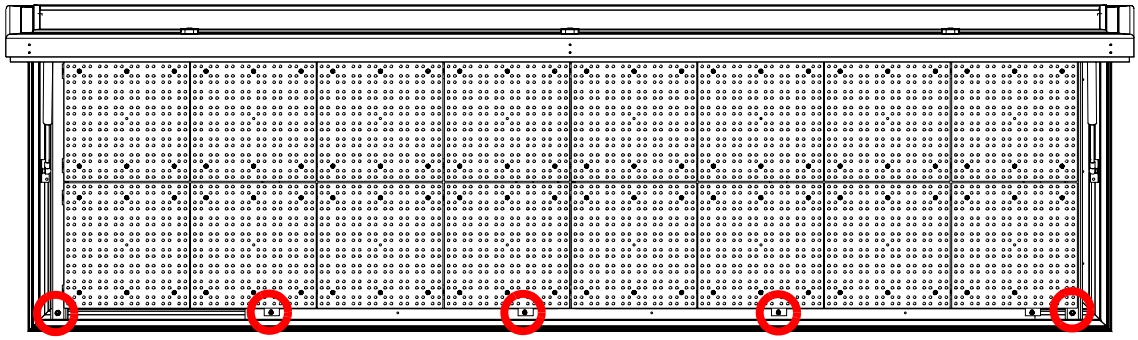
Turn latch key 180 to the left to fully unlock the case

3. Stand away from the sign. Then lift the sign door upward.

4. Remove the wing nut from each safety bar. Then swing each safety bar down and attach it to the bolt outside the sign using the wing nut.

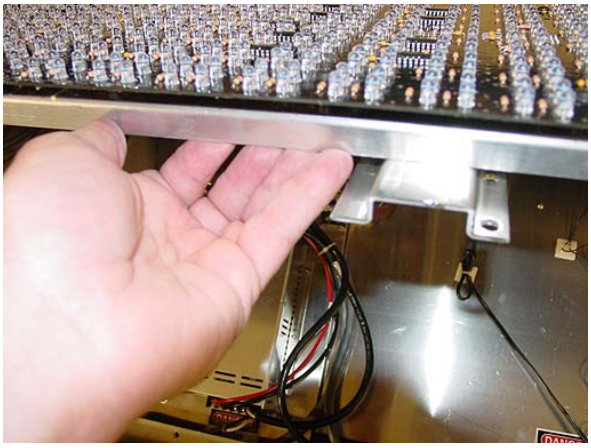


5. Remove the rail screws (circled below) at the bottom of each internal vertical rail. The number of rail screws varies with the size of the sign:

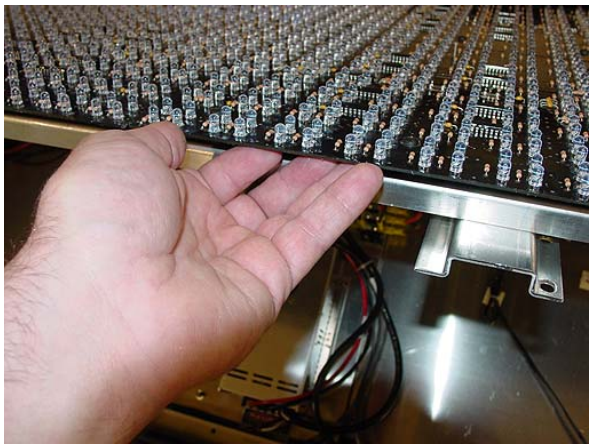


6. Carefully lift the LED boards up by placing your hands underneath the mounting rails -- not underneath an LED board:

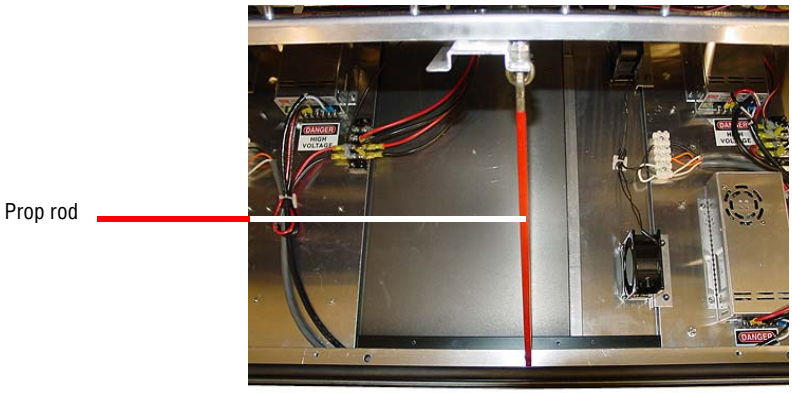
RIGHT WAY to Lift



WRONG WAY to Lift



7. Lower and fasten each red prop rod:



Close the sign

8. Push 1 on the sign's internal power switch.
9. Raise each red prop rod and fasten each rod to a clip underneath the LED boards.

   NOTE: If a prop rod is not fastened, it could swing free and damage internal sign components.
10. Lower the LED boards.
11. Refasten the rail screws to the internal vertical rails.
12. Unfasten each safety bar and place inside the sign.
13. Lower the sign's door.
14. use the locking latch to lock the door shut.
15. Apply power to the sign.

RS485 termination

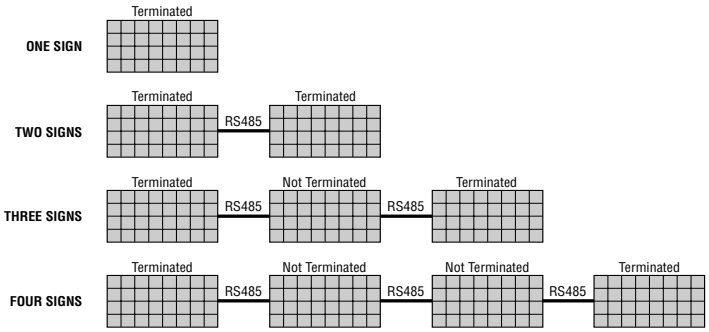
What is RS485 termination?

When signs are connected together using TS485 wiring, it is necessary to terminate each end of the network to ensure that the signs communicate with each other.

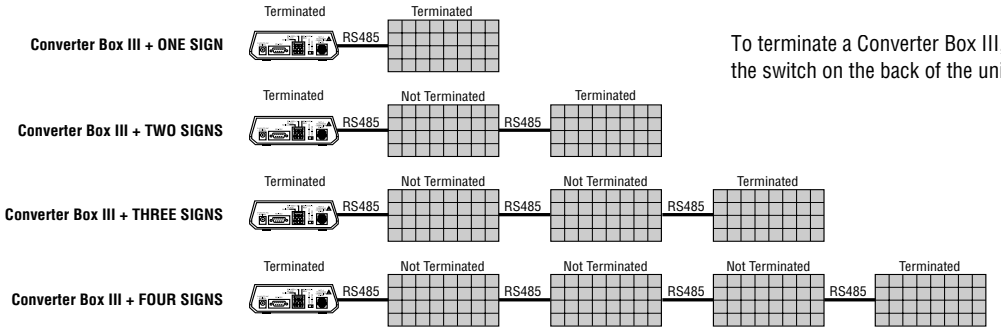
If signs are not correctly terminated, messages could display improperly.

When is termination used?

RULE: Terminate the first and the last sign in a network:



RULE: If a Converter Box III is used, treat the converter box as if it were a sign:



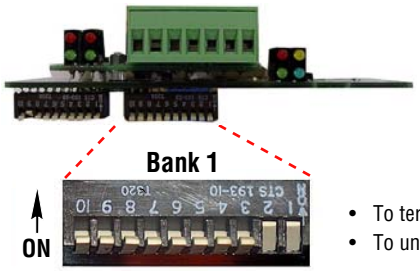
To terminate a Converter Box III, set the switch on the back of the unit

How to terminate and un-terminate a sign

1. Open the sign

- For AlphaEclipse 2500/2600 signs see “Opening and Closing an AlphaEclipse 2500/2600 sign” on page 39
- For AlphaEclipse 3500 signs see “Opening and Closing an AlphaEclipse 3500 sign” on page 41.

2. On the controller board, set or un-set Bank 1 DIP switches #1 and #2:

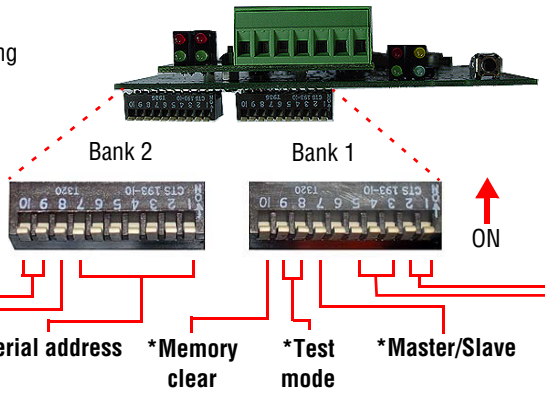


- To terminate a sign, set switches #1 and #2 to ON.
- To un-terminate a sign, set switches #1 and #2 to OFF.

DIP switch settings

Sign operation settings (Bank 1 and Bank 2 DIP switches)

* indicates that this DIP switch setting can be set using the *AlphaNET Diagnostics* software.



Bank 2 DIP switches

	10	9	Description
Diagnostics	Off	Off	Normal messaging (default)
	Off	On	Goes through several test patterns to test for unlit LEDs and other irregularities.
	On	Off	All LEDs are lit to test for uniform LED display
	On	On	Software override — When enabled, prevents setting DIP switches from software, and the sign will operate using the current DIP switch settings. *DIP switches 9 and 8 on Bank 1 must also be both on.*

	8	Description
Data format	Off	8N1 — 8 data bits, No parity, 1 stop bit (default)
	On	7E2 — 7 data bits, Even parity, 2 stop bits

	7 (MSB)	6	5	4	3	2	1 (LSB)	Address	
								Dec	Hex
Serial address (address 0 = default)	Off	Off	Off	Off	Off	Off	Off	0	00
	Off	Off	Off	Off	Off	Off	On	1	01
	Off	Off	Off	Off	Off	On	Off	2	02
	Off	Off	Off	Off	Off	On	On	3	03
	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
	On	On	On	On	On	Off	On	125	7D
	On	On	On	On	On	On	Off	126	7E
	On	On	On	On	On	On	On	127	7F

Bank 1 DIP switches

	10	Description
Memory Clear	Off	Do NOT clear memory (default))
	On	Clear memory on powerup

	9	8	Description
Test Mode	Off	Off	Normal mode (default)
	Off	On	Production test mode
	On	Off	Display temperature test
	On	On	Software override — When enabled, prevents setting DIP switches from software, and the sign will operate using the current DIP switch settings. *DIP switches 10 and 9 on Bank 2 must also be both on.*

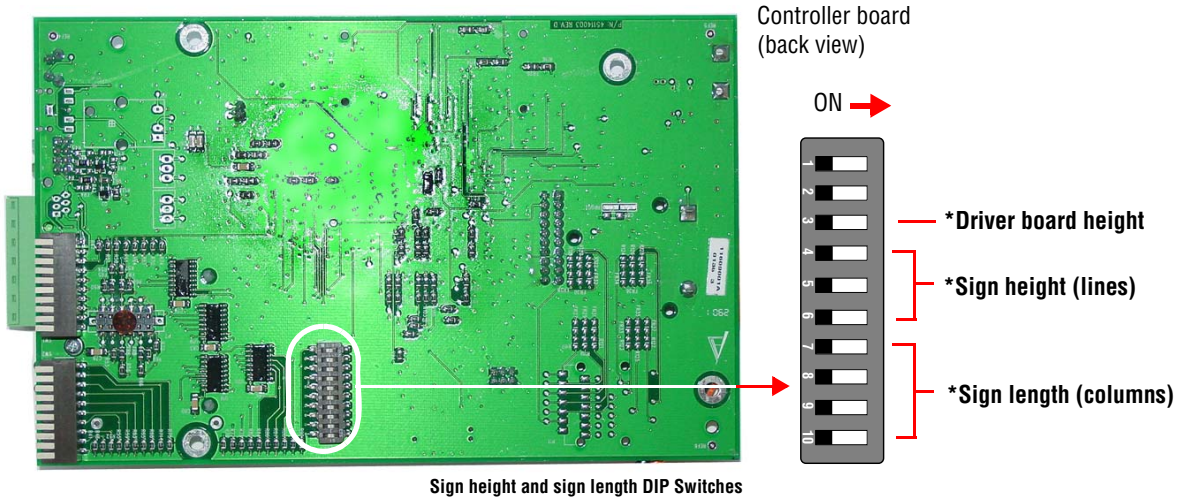
	7	Description
Master/ Slave	Off	Master mode (default)
	On	Slave mode

	5	4	3	Description
Baud rate	Off	Off	Off	Autobaud (see NOTE below)
	Off	Off	On	1200
	Off	On	Off	2400
	Off	On	On	4800
	On	Off	Off	9600
	On	Off	On	19200
	On	On	Off	38400
	On	On	On	Autobaud (see NOTE below)
	NOTE: When Autobaud is on, the sign will automatically try to set itself to the baud rate and data format (8N1 or 7E2) of the transmitting modem. Also, make sure that Data format (Bank 2, switch 8) is set to Off.			

	2	1	Description (see)
Termination	Off	Off	Termination off (default)
	On	On	Termination on

Sign size settings (Bank 3 DIP switches)

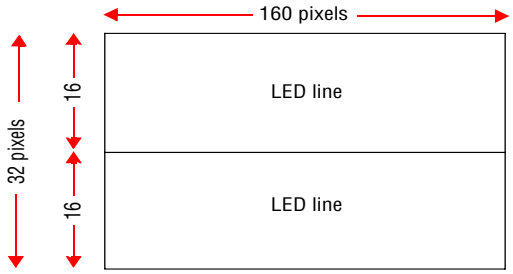
* indicates that this DIP switch setting can be set using the *AlphaNET Diagnostics* software.



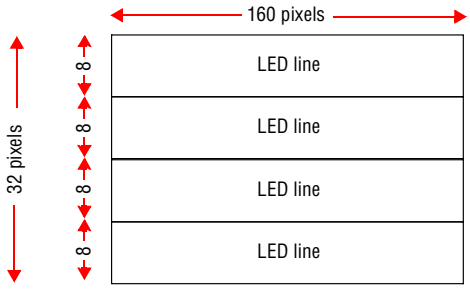
Sign height and sign length DIP Switches

Sign size is typically represented in pixels, like 160 (columns) x 48 (rows). This means the sign is 160 pixels long and 48 pixels high. In AlphaEclipse 2500/2600 signs, each line is 16 pixels high. So a 160 x 48 sign has a Sign height = 3 (48/16) and a Sign length = 160.

AlphaEclipse 2500/2600 sign example
160 x 32 sign (sign length x sign height)



AlphaEclipse 3500 sign example
160 x 32 sign (sign length x sign height)



Bank 3 DIP switches

Sign length (columns)				
10	**9**	**8**	**7**	**Description**
Off	Off	Off	Off	64 columns (default)
Off	Off	Off	On	16 columns
Off	Off	On	Off	32 columns
Off	Off	On	On	48 columns
Off	On	Off	Off	64 columns
Off	On	Off	On	80 columns
Off	On	On	Off	96 columns
Off	On	On	On	112 columns
On	Off	Off	Off	128 columns
On	Off	Off	On	144 columns
On	Off	On	Off	160 columns
On	Off	On	On	176 columns
On	On	Off	Off	192 columns
On	On	Off	On	208 columns
On	On	On	Off	224 columns
On	On	On	On	240 columns

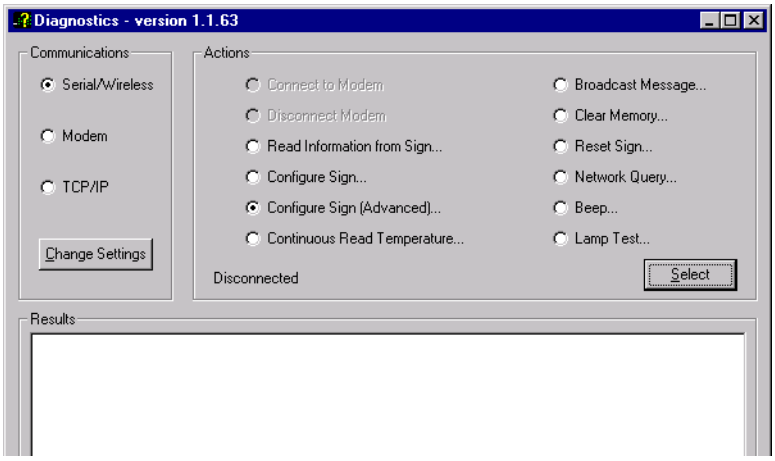
Sign height (lines)				
6	**5**	**4**	**Description**	
Off	Off	Off	1 line (default)	
Off	Off	On	2 lines	
Off	On	Off	3 lines	
Off	On	On	4 lines	
On	Off	Off	5 lines	
On	Off	On	6 lines	Not valid for 2500/2600 signs
On	On	Off	7 lines	
On	On	On	8 lines	

Driver board height	
3	**Description**
Off	8-row high (default)
On	16-row high — use for a 2500/2600 sign

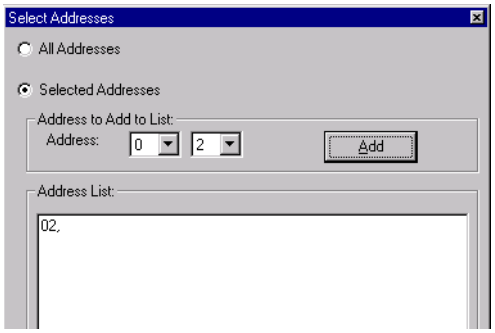
Using AlphaNET software to set DIP switches

AlphaNET software version 2.0.3 and greater can be used to set the Bank 1, 2, or 3 DIP switches explained previously. Version 2.0.3 is documented below.

1. To do this, select the AlphaNET *Diagnostics* software:

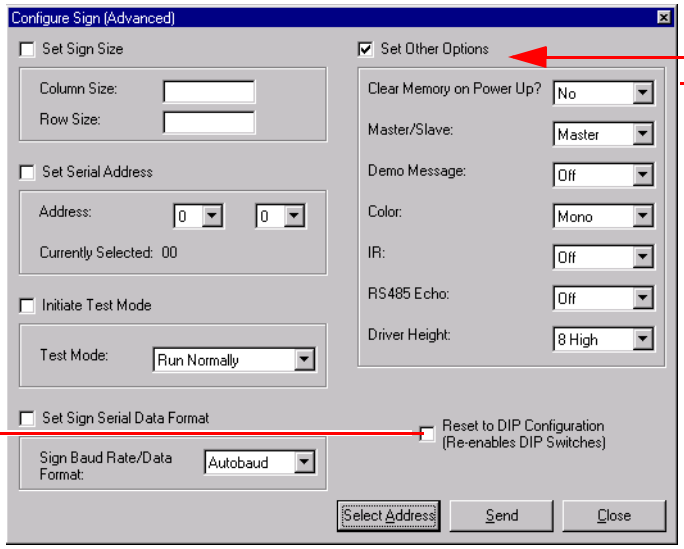


2. Select *Configure Sign (Advanced)* > *Select Address*:



Select the serial address(es) of the signs you want to configure.

3. Select one or more of the available options (*Set Sign Size*, *Set Serial Address*, and so on) and click on *Send*:



Before changing any of these options, make sure this box is checked.

To set the sign to its DIP switch settings, check this box.

Shop drawings

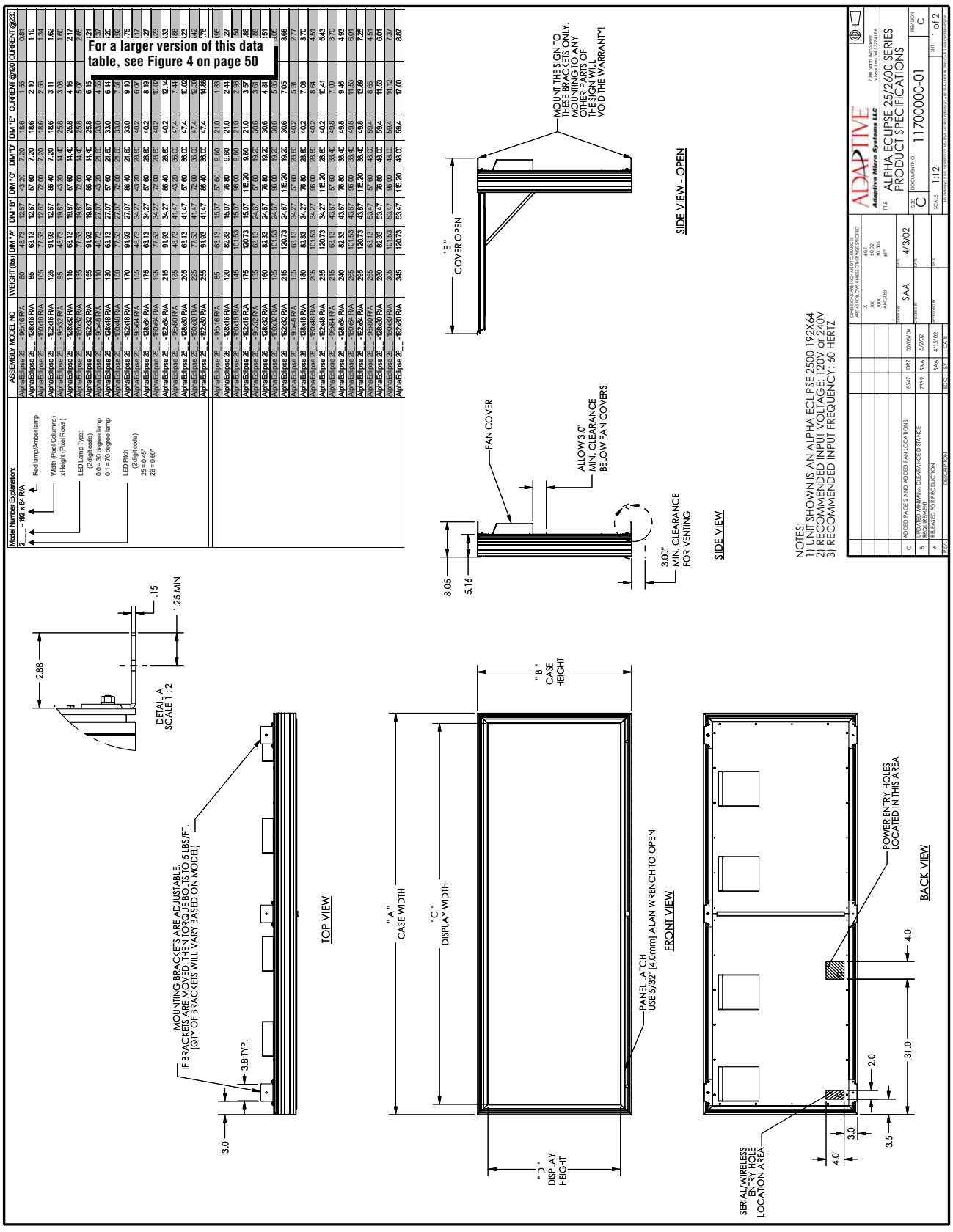
The following drawings are attached:

AlphaEclipse 2500/2600 sign

- 11700000-01C AlphaEclipse 2500/2600 Series Product Specifications (page 49)

AlphaEclipse 3500 sign

- 11600000-19J AlphaEclipse 3500 Series B Sales Drawing (page 53)



Model Number Explanation:	ASSEMBLY MODEL NO	WEIGHT (lbs)	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	CURRENT @(25)	CURRENT @(30)	CURRENT @(23)
	AlphaEclipse 25___-96x16 R/A	90	48.73	12.67	42.20	7.20	18.6	1.85		0.81
	AlphaEclipse 25___-128x16 R/A	85	63.13	12.67	57.60	7.20	18.6	2.10		1.10
	AlphaEclipse 25___-96x32 R/A	125	48.73	19.67	42.20	14.40	25.8	3.15		1.62
	AlphaEclipse 25___-192x16 R/A	125	91.93	12.67	86.40	7.20	18.6	3.11		1.62
	AlphaEclipse 25___-96x32 R/A	95	48.73	19.67	43.20	14.40	25.8	3.18		1.60
	AlphaEclipse 25___-128x32 R/A	115	63.13	19.67	57.60	14.40	25.8	4.16		2.17
	AlphaEclipse 25___-160x32 R/A	135	77.53	19.67	72.00	14.40	25.8	5.07		2.65
	AlphaEclipse 25___-192x32 R/A	155	91.93	19.67	86.40	14.40	25.8	6.15		3.21
	AlphaEclipse 25___-96x48 R/A	110	48.73	27.07	43.20	21.60	33.0	4.58		2.39
	AlphaEclipse 25___-128x48 R/A	130	63.13	27.07	57.60	21.60	33.0	6.14		3.20
	AlphaEclipse 25___-160x48 R/A	150	77.53	27.07	72.00	21.60	33.0	7.58		3.92
	AlphaEclipse 25___-192x48 R/A	170	91.93	27.07	86.40	21.60	33.0	9.10		4.75
	AlphaEclipse 25___-96x64 R/A	155	48.73	34.27	43.20	28.80	40.2	6.07		3.17
	AlphaEclipse 25___-128x64 R/A	175	63.13	34.27	57.60	28.80	40.2	8.19		4.27
	AlphaEclipse 25___-160x64 R/A	195	77.53	34.27	72.00	28.80	40.2	10.10		5.23
	AlphaEclipse 25___-192x64 R/A	215	91.93	34.27	86.40	28.80	40.2	12.14		6.33
	AlphaEclipse 25___-128x80 R/A	205	63.13	41.47	57.60	36.00	47.4	10.12		5.28
	AlphaEclipse 25___-160x80 R/A	225	77.53	41.47	72.00	36.00	47.4	12.12		6.32
	AlphaEclipse 25___-192x80 R/A	265	91.93	41.47	86.40	36.00	47.4	14.08		7.35
	AlphaEclipse 26___-96x16 R/A	85	63.13	15.07	57.60	9.60	21.0	1.83		0.95
	AlphaEclipse 26___-128x16 R/A	120	82.33	15.07	76.80	9.60	21.0	2.44		1.27
	AlphaEclipse 26___-96x32 R/A	145	101.53	15.07	96.00	9.60	21.0	3.05		1.59
	AlphaEclipse 26___-192x16 R/A	175	120.73	15.07	115.20	9.60	21.0	3.67		1.91
	AlphaEclipse 26___-96x48 R/A	155	63.13	24.67	57.60	19.20	30.6	3.67		1.91
	AlphaEclipse 26___-128x48 R/A	175	82.33	24.67	76.80	19.20	30.6	4.81		2.51
	AlphaEclipse 26___-160x48 R/A	195	101.53	24.67	96.00	19.20	30.6	5.95		3.09
	AlphaEclipse 26___-192x48 R/A	215	120.73	24.67	115.20	19.20	30.6	7.05		3.68
	AlphaEclipse 26___-96x48 R/A	155	63.13	34.27	57.60	28.80	40.2	5.31		2.77
	AlphaEclipse 26___-128x48 R/A	180	82.33	34.27	76.80	28.80	40.2	7.06		3.70
	AlphaEclipse 26___-160x48 R/A	205	101.53	34.27	96.00	28.80	40.2	8.64		4.51
	AlphaEclipse 26___-192x48 R/A	235	120.73	34.27	115.20	28.80	40.2	10.41		5.43
	AlphaEclipse 26___-96x64 R/A	215	63.13	43.87	57.60	38.40	49.8	7.09		3.70
	AlphaEclipse 26___-128x64 R/A	240	82.33	43.87	76.80	38.40	49.8	9.46		4.93
	AlphaEclipse 26___-160x64 R/A	265	101.53	43.87	96.00	38.40	49.8	11.83		6.01
	AlphaEclipse 26___-192x64 R/A	295	120.73	43.87	115.20	38.40	49.8	13.89		7.25
	AlphaEclipse 26___-128x80 R/A	265	82.33	53.47	76.80	48.00	59.4	11.85		6.01
	AlphaEclipse 26___-160x80 R/A	295	101.53	53.47	96.00	48.00	59.4	14.12		7.37
	AlphaEclipse 26___-192x80 R/A	345	120.73	53.47	115.20	48.00	59.4	17.00		8.87

Figure 3: 11700000-01C AlphaEclipse 2500/2600 Series Product Specifications (sheet 1 of 2)

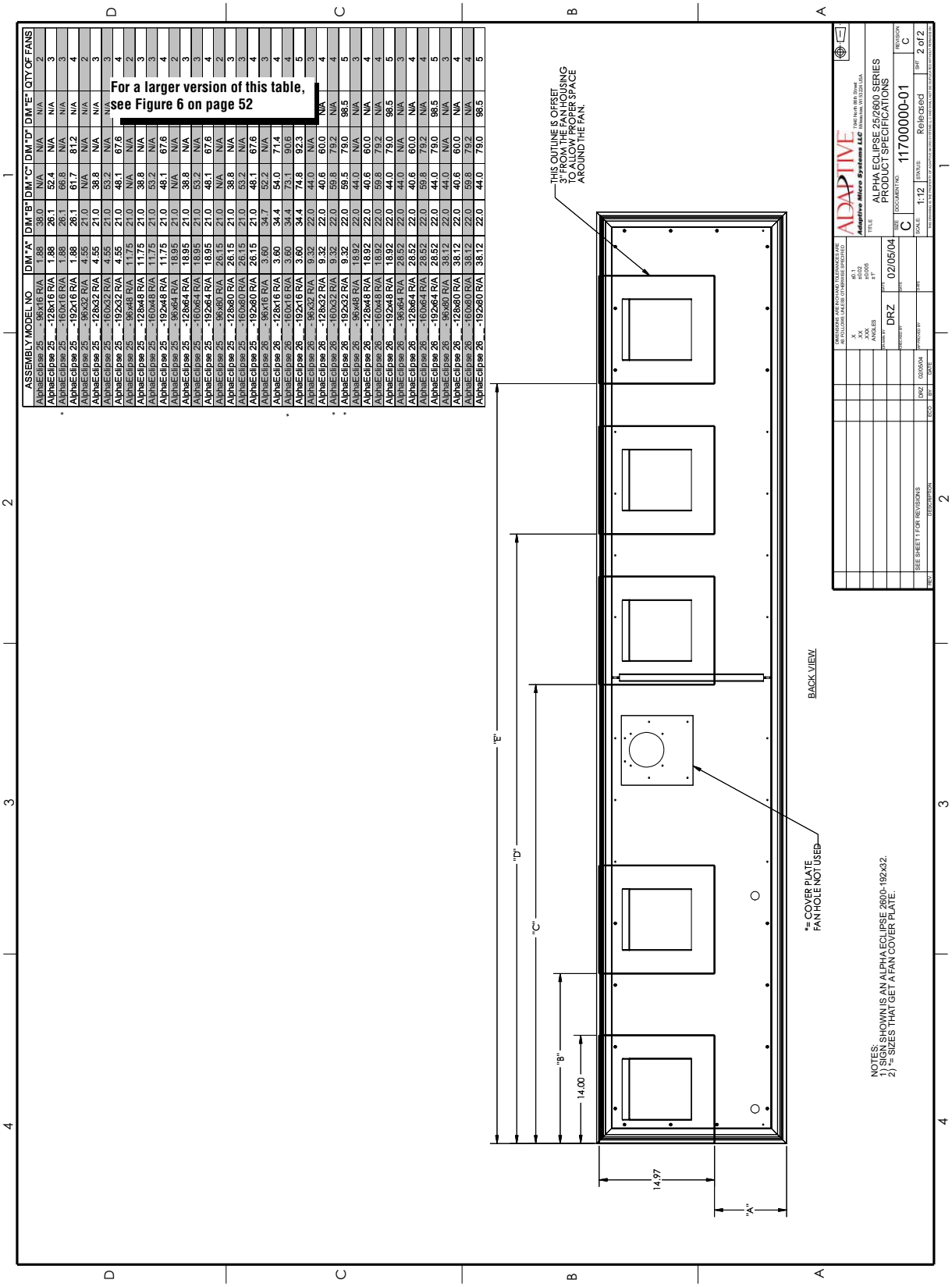
Model Number Explanation:

2_ _ _ - 192 x 64 R/A

- 2_ _ _ : LED Pitch (2 digit code) — 25 = 0.45", 26 = 0.60"
- _ _ _ : LED Lamp Type: (2 digit code) — 0 0 = 30 degree lamp, 0 1 = 70 degree lamp
- 192 x 64 : Width (Pixel Columns) x Height (Pixel Rows)
- R/A : Red lamp/Amber lamp

ASSEMBLY MODEL NO	WEIGHT (lbs)	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	CURRENT @120	CURRENT @230
AlphaEclipse 25_ _ - 96x16 R/A	60	48.73	12.67	43.20	7.20	18.6	1.55	0.81
AlphaEclipse 25_ _ -128x16 R/A	85	63.13	12.67	57.60	7.20	18.6	2.10	1.10
AlphaEclipse 25_ _ -160x16 R/A	105	77.53	12.67	72.00	7.20	18.6	2.56	1.34
AlphaEclipse 25_ _ -192x16 R/A	125	91.93	12.67	86.40	7.20	18.6	3.11	1.62
AlphaEclipse 25_ _ - 96x32 R/A	95	48.73	19.87	43.20	14.40	25.8	3.08	1.60
AlphaEclipse 25_ _ -128x32 R/A	115	63.13	19.87	57.60	14.40	25.8	4.16	2.17
AlphaEclipse 25_ _ -160x32 R/A	135	77.53	19.87	72.00	14.40	25.8	5.07	2.65
AlphaEclipse 25_ _ -192x32 R/A	155	91.93	19.87	86.40	14.40	25.8	6.15	3.21
AlphaEclipse 25_ _ - 96x48 R/A	110	48.73	27.07	43.20	21.60	33.0	4.55	2.37
AlphaEclipse 25_ _ -128x48 R/A	130	63.13	27.07	57.60	21.60	33.0	6.14	3.20
AlphaEclipse 25_ _ -160x48 R/A	150	77.53	27.07	72.00	21.60	33.0	7.51	3.92
AlphaEclipse 25_ _ -192x48 R/A	170	91.93	27.07	86.40	21.60	33.0	9.10	4.75
AlphaEclipse 25_ _ - 96x64 R/A	155	48.73	34.27	43.20	28.80	40.2	6.07	3.17
AlphaEclipse 25_ _ -128x64 R/A	175	63.13	34.27	57.60	28.80	40.2	8.19	4.27
AlphaEclipse 25_ _ -160x64 R/A	195	77.53	34.27	72.00	28.80	40.2	10.02	5.23
AlphaEclipse 25_ _ -192x64 R/A	215	91.93	34.27	86.40	28.80	40.2	12.14	6.33
AlphaEclipse 25_ _ - 96x80 R/A	185	48.73	41.47	43.20	36.00	47.4	7.44	3.88
AlphaEclipse 25_ _ -128x80 R/A	205	63.13	41.47	57.60	36.00	47.4	10.02	5.23
AlphaEclipse 25_ _ -160x80 R/A	225	77.53	41.47	72.00	36.00	47.4	12.30	6.42
AlphaEclipse 25_ _ -192x80 R/A	255	91.93	41.47	86.40	36.00	47.4	14.88	7.76
AlphaEclipse 26_ _ - 96x16 R/A	85	63.13	15.07	57.60	9.60	21.0	1.83	0.95
AlphaEclipse 26_ _ -128x16 R/A	120	82.33	15.07	76.80	9.60	21.0	2.44	1.27
AlphaEclipse 26_ _ -160x16 R/A	145	101.53	15.07	96.00	9.60	21.0	2.96	1.54
AlphaEclipse 26_ _ -192x16 R/A	175	120.73	15.07	115.20	9.60	21.0	3.57	1.86
AlphaEclipse 26_ _ - 96x32 R/A	135	63.13	24.67	57.60	19.20	30.6	3.61	1.88
AlphaEclipse 26_ _ -128x32 R/A	160	82.33	24.67	76.80	19.20	30.6	4.81	2.51
AlphaEclipse 26_ _ -160x32 R/A	185	101.53	24.67	96.00	19.20	30.6	5.85	3.05
AlphaEclipse 26_ _ -192x32 R/A	215	120.73	24.67	115.20	19.20	30.6	7.05	3.68
AlphaEclipse 26_ _ - 96x48 R/A	155	63.13	34.27	57.60	28.80	40.2	5.31	2.77
AlphaEclipse 26_ _ -128x48 R/A	180	82.33	34.27	76.80	28.80	40.2	7.08	3.70
AlphaEclipse 26_ _ -160x48 R/A	205	101.53	34.27	96.00	28.80	40.2	8.64	4.51
AlphaEclipse 26_ _ -192x48 R/A	235	120.73	34.27	115.20	28.80	40.2	10.41	5.43
AlphaEclipse 26_ _ - 96x64 R/A	215	63.13	43.87	57.60	38.40	49.8	7.09	3.70
AlphaEclipse 26_ _ -128x64 R/A	240	82.33	43.87	76.80	38.40	49.8	9.46	4.93
AlphaEclipse 26_ _ -160x64 R/A	265	101.53	43.87	96.00	38.40	49.8	11.53	6.01
AlphaEclipse 26_ _ -192x64 R/A	295	120.73	43.87	115.20	38.40	49.8	13.89	7.25
AlphaEclipse 26_ _ - 96x80 R/A	255	63.13	53.47	57.60	48.00	59.4	8.65	4.51
AlphaEclipse 26_ _ -128x80 R/A	280	82.33	53.47	76.80	48.00	59.4	11.53	6.01
AlphaEclipse 26_ _ -160x80 R/A	305	101.53	53.47	96.00	48.00	59.4	14.12	7.37
AlphaEclipse 26_ _ -192x80 R/A	345	120.73	53.47	115.20	48.00	59.4	17.00	8.87

Figure 4: 11700000-01C AlphaEclipse 2500/2600 Series Product Specifications (sheet 1 of 2)
Sign Dimensions and Current Requirements Table



ASSEMBLY MODEL NO	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	QTY OF FANS
AlphaEclipse 25 - 96x16 R/A	1.88	38.0	N/A	N/A	N/A	2
AlphaEclipse 25 - 128x16 R/A	1.88	26.1	52.4	N/A	N/A	3
AlphaEclipse 25 - 160x16 R/A	1.88	26.1	66.8	N/A	N/A	3
AlphaEclipse 25 - 192x16 R/A	1.88	26.1	61.7	81.2	N/A	4
AlphaEclipse 25 - 96x32 R/A	4.55	21.0	N/A	N/A	N/A	2
AlphaEclipse 25 - 128x32 R/A	4.55	21.0	38.8	N/A	N/A	3
AlphaEclipse 25 - 160x32 R/A	4.55	21.0	53.2	N/A	N/A	3
AlphaEclipse 25 - 192x32 R/A	4.55	21.0	48.1	67.6	N/A	4
AlphaEclipse 25 - 96x48 R/A	11.75	21.0	N/A	N/A	N/A	2
AlphaEclipse 25 - 128x48 R/A	11.75	21.0	38.8	N/A	N/A	3
AlphaEclipse 25 - 160x48 R/A	11.75	21.0	53.2	N/A	N/A	3
AlphaEclipse 25 - 192x48 R/A	11.75	21.0	48.1	67.6	N/A	4
AlphaEclipse 25 - 96x64 R/A	18.95	21.0	N/A	N/A	N/A	2
AlphaEclipse 25 - 128x64 R/A	18.95	21.0	38.8	N/A	N/A	3
AlphaEclipse 25 - 160x64 R/A	18.95	21.0	53.2	N/A	N/A	3
AlphaEclipse 25 - 192x64 R/A	18.95	21.0	48.1	67.6	N/A	4
AlphaEclipse 25 - 96x80 R/A	26.15	21.0	N/A	N/A	N/A	2
AlphaEclipse 25 - 128x80 R/A	26.15	21.0	38.8	N/A	N/A	3
AlphaEclipse 25 - 160x80 R/A	26.15	21.0	53.2	N/A	N/A	3
AlphaEclipse 25 - 192x80 R/A	26.15	21.0	48.1	67.6	N/A	4
AlphaEclipse 26 - 96x16 R/A	3.60	34.7	52.2	N/A	N/A	3
AlphaEclipse 26 - 128x16 R/A	3.60	34.4	54.0	71.4	N/A	4
AlphaEclipse 26 - 160x16 R/A	3.60	34.4	73.1	90.6	N/A	4
AlphaEclipse 26 - 192x16 R/A	3.60	34.4	74.8	92.3	N/A	5
AlphaEclipse 26 - 96x32 R/A	9.32	22.0	44.0	N/A	N/A	3
AlphaEclipse 26 - 128x32 R/A	9.32	22.0	40.6	60.0	N/A	4
AlphaEclipse 26 - 160x32 R/A	9.32	22.0	59.8	79.2	N/A	4
AlphaEclipse 26 - 192x32 R/A	9.32	22.0	59.5	79.0	98.5	5
AlphaEclipse 26 - 96x48 R/A	18.92	22.0	44.0	N/A	N/A	3
AlphaEclipse 26 - 128x48 R/A	18.92	22.0	40.6	60.0	N/A	4
AlphaEclipse 26 - 160x48 R/A	18.92	22.0	59.8	79.2	N/A	4
AlphaEclipse 26 - 192x48 R/A	18.92	22.0	44.0	79.0	98.5	5
AlphaEclipse 26 - 96x64 R/A	28.52	22.0	44.0	N/A	N/A	3
AlphaEclipse 26 - 128x64 R/A	28.52	22.0	40.6	60.0	N/A	4
AlphaEclipse 26 - 160x64 R/A	28.52	22.0	59.8	79.2	N/A	4
AlphaEclipse 26 - 192x64 R/A	28.52	22.0	44.0	79.0	98.5	5
AlphaEclipse 26 - 96x80 R/A	38.12	22.0	44.0	N/A	N/A	3
AlphaEclipse 26 - 128x80 R/A	38.12	22.0	40.6	60.0	N/A	4
AlphaEclipse 26 - 160x80 R/A	38.12	22.0	59.8	79.2	N/A	4
AlphaEclipse 26 - 192x80 R/A	38.12	22.0	44.0	79.0	98.5	5

Figure 5: 11700000-01C AlphaEclipse 2500/2600 Series Product Specifications (sheet 2 of 2)

ASSEMBLY MODEL NO	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	QTY OF FANS
AlphaEclipse 25_ _ - 96x16 R/A	1.88	38.0	N/A	N/A	N/A	2
AlphaEclipse 25_ _ -128x16 R/A	1.88	26.1	52.4	N/A	N/A	3
AlphaEclipse 25_ _ -160x16 R/A	1.88	26.1	66.8	N/A	N/A	3
AlphaEclipse 25_ _ -192x16 R/A	1.88	26.1	61.7	81.2	N/A	4
AlphaEclipse 25_ _ - 96x32 R/A	4.55	21.0	N/A	N/A	N/A	2
AlphaEclipse 25_ _ -128x32 R/A	4.55	21.0	38.8	N/A	N/A	3
AlphaEclipse 25_ _ -160x32 R/A	4.55	21.0	53.2	N/A	N/A	3
AlphaEclipse 25_ _ -192x32 R/A	4.55	21.0	48.1	67.6	N/A	4
AlphaEclipse 25_ _ - 96x48 R/A	11.75	21.0	N/A	N/A	N/A	2
AlphaEclipse 25_ _ -128x48 R/A	11.75	21.0	38.8	N/A	N/A	3
AlphaEclipse 25_ _ -160x48 R/A	11.75	21.0	53.2	N/A	N/A	3
AlphaEclipse 25_ _ -192x48 R/A	11.75	21.0	48.1	67.6	N/A	4
AlphaEclipse 25_ _ - 96x64 R/A	18.95	21.0	N/A	N/A	N/A	2
AlphaEclipse 25_ _ -128x64 R/A	18.95	21.0	38.8	N/A	N/A	3
AlphaEclipse 25_ _ -160x64 R/A	18.95	21.0	53.2	N/A	N/A	3
AlphaEclipse 25_ _ -192x64 R/A	18.95	21.0	48.1	67.6	N/A	4
AlphaEclipse 25_ _ - 96x80 R/A	26.15	21.0	N/A	N/A	N/A	2
AlphaEclipse 25_ _ -128x80 R/A	26.15	21.0	38.8	N/A	N/A	3
AlphaEclipse 25_ _ -160x80 R/A	26.15	21.0	53.2	N/A	N/A	3
AlphaEclipse 25_ _ -192x80 R/A	26.15	21.0	48.1	67.6	N/A	4
AlphaEclipse 26_ _ - 96x16 R/A	3.60	34.7	52.2	N/A	N/A	3
AlphaEclipse 26_ _ -128x16 R/A	3.60	34.4	54.0	71.4	N/A	4
AlphaEclipse 26_ _ -160x16 R/A	3.60	34.4	73.1	90.6	N/A	4
AlphaEclipse 26_ _ -192x16 R/A	3.60	34.4	74.8	92.3	109.8	5
AlphaEclipse 26_ _ - 96x32 R/A	9.32	22.0	44.0	N/A	N/A	3
AlphaEclipse 26_ _ -128x32 R/A	9.32	22.0	40.6	60.0	N/A	4
AlphaEclipse 26_ _ -160x32 R/A	9.32	22.0	59.8	79.2	N/A	4
AlphaEclipse 26_ _ -192x32 R/A	9.32	22.0	59.5	79.0	98.5	5
AlphaEclipse 26_ _ - 96x48 R/A	18.92	22.0	44.0	N/A	N/A	3
AlphaEclipse 26_ _ -128x48 R/A	18.92	22.0	40.6	60.0	N/A	4
AlphaEclipse 26_ _ -160x48 R/A	18.92	22.0	59.8	79.2	N/A	4
AlphaEclipse 26_ _ -192x48 R/A	18.92	22.0	44.0	79.0	98.5	5
AlphaEclipse 26_ _ - 96x64 R/A	28.52	22.0	44.0	N/A	N/A	3
AlphaEclipse 26_ _ -128x64 R/A	28.52	22.0	40.6	60.0	N/A	4
AlphaEclipse 26_ _ -160x64 R/A	28.52	22.0	59.8	79.2	N/A	4
AlphaEclipse 26_ _ -192x64 R/A	28.52	22.0	44.0	79.0	98.5	5
AlphaEclipse 26_ _ - 96x80 R/A	38.12	22.0	44.0	N/A	N/A	3
AlphaEclipse 26_ _ -128x80 R/A	38.12	22.0	40.6	60.0	N/A	4
AlphaEclipse 26_ _ -160x80 R/A	38.12	22.0	59.8	79.2	N/A	4
AlphaEclipse 26_ _ -192x80 R/A	38.12	22.0	44.0	79.0	98.5	5

Figure 6: 11700000-01C AlphaEclipse 2500/2600 Series Product Specifications (sheet 2 of 2)
Fan Spacing Table

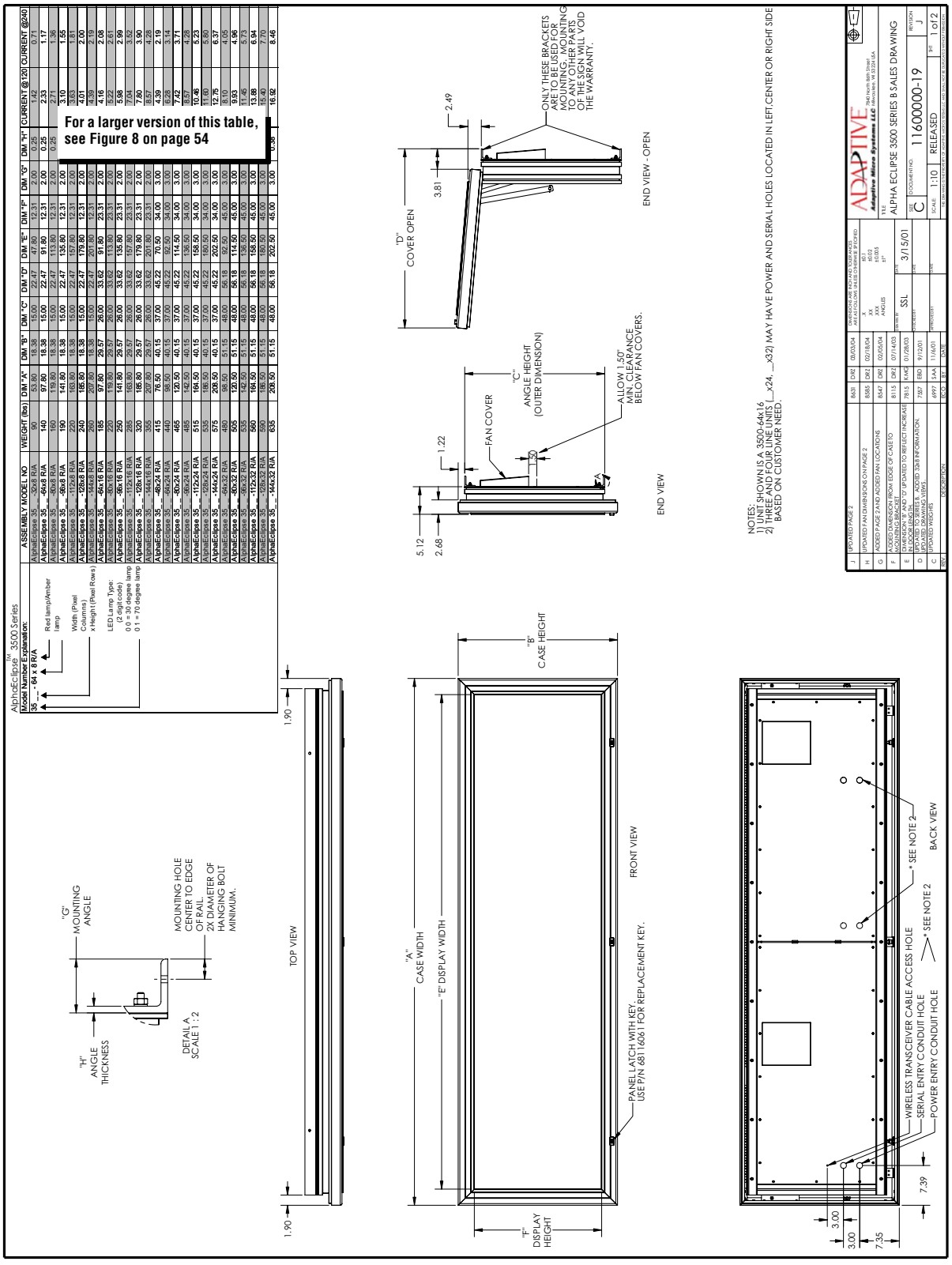
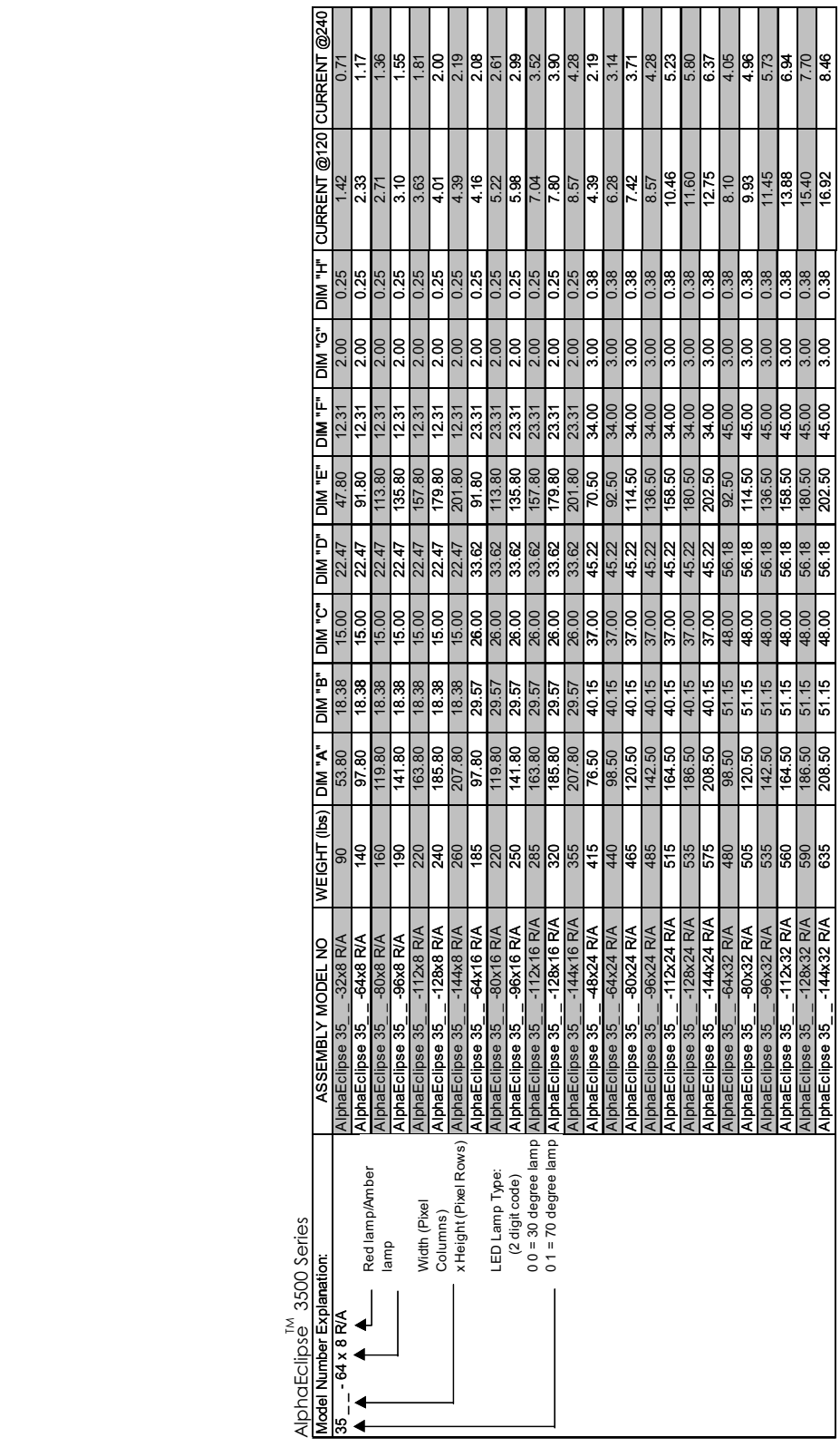
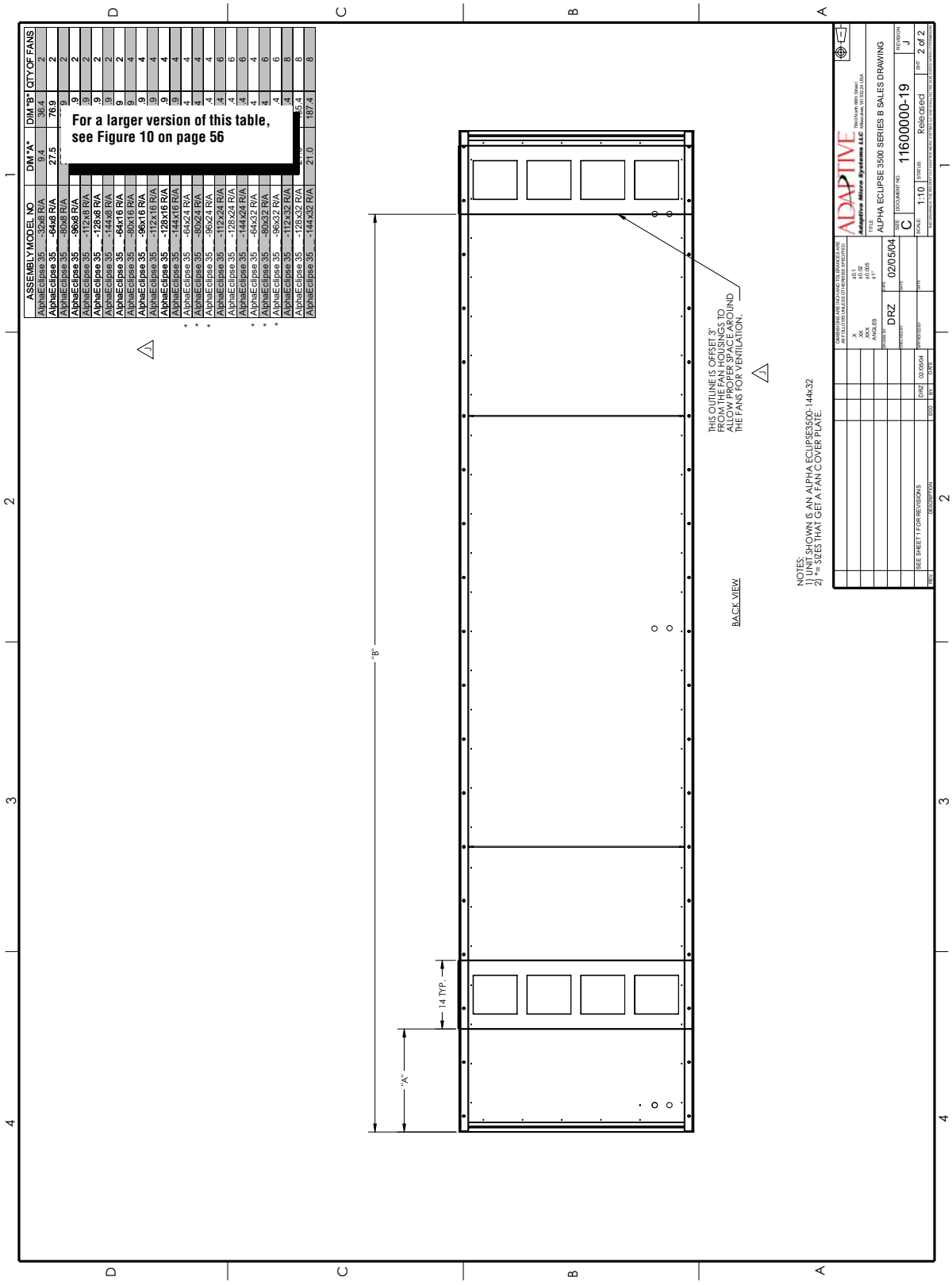

For a larger version of this table, see Figure 8 on page 54
AlphaEclipse™ 3500 Series
Model Number Explanation:
35 - - 64 x 8 R/A
Red lamp/Amber lamp
Width (Pixel Columns)
x Height (Pixel Rows)
LED Lamp Type:
2 = 50 degree lamp
0 0 = 30 degree lamp
0 1 = 70 degree lamp
ASSEMBLY MODEL NO
WEIGHT (lbs)
DIM "A"
DIM "B"
DIM "C"
DIM "D"
DIM "E"
DIM "F"
DIM "G"
DIM "H"
CURRENT @120
CURRENT @240
AlphaEclipse 35_ -32x8 R/A 90 53.80 18.38 15.00 22.47 47.80 12.31 2.00 0.25 1.42 0.71
AlphaEclipse 35_ -64x8 R/A 140 97.80 18.38 15.00 22.47 91.80 12.31 2.00 0.25 2.43 1.17
AlphaEclipse 35_ -96x8 R/A 190 141.80 18.38 15.00 22.47 135.80 12.31 2.00 2.47 3.43 1.59
AlphaEclipse 35_ -80x8 R/A 190 141.80 18.38 15.00 22.47 135.80 12.31 2.00 3.10 1.55
AlphaEclipse 35_ -112x8 R/A 220 163.80 18.38 15.00 22.47 157.80 12.31 2.00 3.53 1.81
AlphaEclipse 35_ -128x8 R/A 240 185.80 18.38 15.00 22.47 179.80 12.31 2.00 4.01 2.00
AlphaEclipse 35_ -144x8 R/A 260 207.80 18.38 15.00 22.47 201.80 12.31 2.00 4.39 2.19
AlphaEclipse 35_ -96x16 R/A 185 97.80 29.57 26.00 33.62 91.80 23.31 2.00 4.16 2.08
AlphaEclipse 35_ -80x16 R/A 220 119.80 29.57 26.00 33.62 113.80 23.31 2.00 5.22 2.61
AlphaEclipse 35_ -96x16 R/A 260 141.80 29.57 26.00 33.62 135.80 23.31 2.00 5.58 2.99
AlphaEclipse 35_ -112x16 R/A 295 163.80 29.57 26.00 33.62 157.80 23.31 2.00 7.04 2.89
AlphaEclipse 35_ -128x16 R/A 320 185.80 29.57 26.00 33.62 179.80 23.31 2.00 7.80 3.90
AlphaEclipse 35_ -144x16 R/A 355 207.80 29.57 26.00 33.62 201.80 23.31 2.00 8.57 4.28
AlphaEclipse 35_ -48x24 R/A 415 76.50 40.15 37.00 45.22 70.50 34.00 3.00 4.39 2.19
AlphaEclipse 35_ -64x24 R/A 440 98.50 40.15 37.00 45.22 92.50 34.00 3.00 6.26 3.14
AlphaEclipse 35_ -80x24 R/A 465 120.50 40.15 37.00 45.22 114.50 34.00 3.00 7.42 3.71
AlphaEclipse 35_ -96x24 R/A 515 142.50 40.15 37.00 45.22 136.50 34.00 3.00 8.58 4.29
AlphaEclipse 35_ -112x24 R/A 515 164.50 40.15 37.00 45.22 158.50 34.00 3.00 10.46 5.23
AlphaEclipse 35_ -128x24 R/A 535 186.50 40.15 37.00 45.22 180.50 34.00 3.00 11.80 5.80
AlphaEclipse 35_ -144x24 R/A 575 208.50 40.15 37.00 45.22 202.50 34.00 3.00 12.75 6.37
AlphaEclipse 35_ -64x32 R/A 480 98.50 51.15 48.00 56.18 92.50 45.00 3.00 8.10 4.05
AlphaEclipse 35_ -80x32 R/A 505 120.50 51.15 48.00 56.18 114.50 45.00 3.00 9.93 4.96
AlphaEclipse 35_ -96x32 R/A 535 142.50 51.15 48.00 56.18 136.50 45.00 3.00 11.45 5.73
AlphaEclipse 35_ -112x32 R/A 560 164.50 51.15 48.00 56.18 158.50 45.00 3.00 13.06 6.94
AlphaEclipse 35_ -128x32 R/A 595 186.50 51.15 48.00 56.18 180.50 45.00 3.00 15.50 7.80
AlphaEclipse 35_ -144x32 R/A 635 208.50 51.15 48.00 56.18 202.50 45.00 3.00 16.92 8.46
"G" MOUNTING ANGLE
"H" ANGLE THICKNESS
MOUNTING HOLE CENTER TO EDGE OF RAIL: 2X DIAMETER OF HANGING BOLT MINIMUM.
DETAIL A SCALE 1 : 2
TOP VIEW
1.90
1.90
"A" CASE WIDTH
"E" DISPLAY WIDTH
"B" CASE HEIGHT
"F" DISPLAY HEIGHT
PANEL LATCH WITH KEY. USE P/N 68116061 FOR REPLACEMENT KEY.
FRONT VIEW
* SEE NOTE 2
* SEE NOTE 2
BACK VIEW
WIRELESS TRANSCEIVER CABLE ACCESS HOLE
SERIAL ENTRY CONDUIT HOLE
POWER ENTRY CONDUIT HOLE
3.00
3.00
7.35
7.39
"D" COVER OPEN
2.49
3.81
ONLY THESE BRACKETS ARE TO BE USED FOR MOUNTING. ANY OTHER PARTS OF THE SIGN WILL VOID THE WARRANTY.
END VIEW - OPEN
5.12
2.68
1.22
FAN COVER
"C" ANGLE HEIGHT (OUTER DIMENSION)
ALLOW 1.50" MIN. CLEARANCE BELOW FAN COVERS.
END VIEW
NOTES:
1) UNIT SHOWN IS A 3500-64x16
2) THREE AND FOUR LINE UNITS (_ _x24, _ _x32) MAY HAVE POWER AND SERIAL HOLES LOCATED IN LEFT, CENTER OR RIGHT SIDE BASED ON CUSTOMER NEED.
ADAPTIVE
ALPHA ECLIPSE 3500 SERIES B SALES DRAWING
SIZE C
DOCUMENT NO 11600000-19
REVISION J
SCALE 1:10
RELEASED
SHT 1 OF 2

Figure 7: 11600000-19J AlphaEclipse 3500 Series B Product Specifications (sheet 1 of 2)


AlphaEclipse™ 3500 Series
Model Number Explanation:
35 _ _ - 64 x 8 R/A
Red lamp/Amber lamp
Width (Pixel Columns)
x Height (Pixel Rows)
LED Lamp Type: (2 digit code)
0 0 = 30 degree lamp
0 1 = 70 degree lamp

ASSEMBLY MODEL NO	WEIGHT (lbs)	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	DIM "F"	DIM "G"	DIM "H"	CURRENT @120	CURRENT @240
AlphaEclipse 35_ _-32x8 R/A	90	53.80	18.38	15.00	22.47	47.80	12.31	2.00	0.25	1.42	0.71
AlphaEclipse 35_ _-64x8 R/A	140	97.80	18.38	15.00	22.47	91.80	12.31	2.00	0.25	2.33	1.17
AlphaEclipse 35_ _-80x8 R/A	160	119.80	18.38	15.00	22.47	113.80	12.31	2.00	0.25	2.71	1.36
AlphaEclipse 35_ _-96x8 R/A	190	141.80	18.38	15.00	22.47	135.80	12.31	2.00	0.25	3.10	1.55
AlphaEclipse 35_ _-112x8 R/A	220	163.80	18.38	15.00	22.47	157.80	12.31	2.00	0.25	3.63	1.81
AlphaEclipse 35_ _-128x8 R/A	240	185.80	18.38	15.00	22.47	179.80	12.31	2.00	0.25	4.01	2.00
AlphaEclipse 35_ _-144x8 R/A	260	207.80	18.38	15.00	22.47	201.80	12.31	2.00	0.25	4.39	2.19
AlphaEclipse 35_ _-64x16 R/A	185	97.80	29.57	26.00	33.62	91.80	23.31	2.00	0.25	4.16	2.08
AlphaEclipse 35_ _-80x16 R/A	220	119.80	29.57	26.00	33.62	113.80	23.31	2.00	0.25	5.22	2.61
AlphaEclipse 35_ _-96x16 R/A	250	141.80	29.57	26.00	33.62	135.80	23.31	2.00	0.25	5.98	2.99
AlphaEclipse 35_ _-112x16 R/A	285	163.80	29.57	26.00	33.62	157.80	23.31	2.00	0.25	7.04	3.52
AlphaEclipse 35_ _-128x16 R/A	320	185.80	29.57	26.00	33.62	179.80	23.31	2.00	0.25	7.80	3.90
AlphaEclipse 35_ _-144x16 R/A	355	207.80	29.57	26.00	33.62	201.80	23.31	2.00	0.25	8.57	4.28
AlphaEclipse 35_ _-48x24 R/A	415	76.50	40.15	37.00	45.22	70.50	34.00	3.00	0.38	4.39	2.19
AlphaEclipse 35_ _-64x24 R/A	440	98.50	40.15	37.00	45.22	92.50	34.00	3.00	0.38	6.28	3.14
AlphaEclipse 35_ _-80x24 R/A	465	120.50	40.15	37.00	45.22	114.50	34.00	3.00	0.38	7.42	3.71
AlphaEclipse 35_ _-96x24 R/A	485	142.50	40.15	37.00	45.22	136.50	34.00	3.00	0.38	8.57	4.28
AlphaEclipse 35_ _-112x24 R/A	515	164.50	40.15	37.00	45.22	158.50	34.00	3.00	0.38	10.46	5.23
AlphaEclipse 35_ _-128x24 R/A	535	186.50	40.15	37.00	45.22	180.50	34.00	3.00	0.38	11.60	5.80
AlphaEclipse 35_ _-144x24 R/A	575	208.50	40.15	37.00	45.22	202.50	34.00	3.00	0.38	12.75	6.37
AlphaEclipse 35_ _-64x32 R/A	480	98.50	51.15	48.00	56.18	92.50	45.00	3.00	0.38	8.10	4.05
AlphaEclipse 35_ _-80x32 R/A	505	120.50	51.15	48.00	56.18	114.50	45.00	3.00	0.38	9.93	4.96
AlphaEclipse 35_ _-96x32 R/A	535	142.50	51.15	48.00	56.18	136.50	45.00	3.00	0.38	11.45	5.73
AlphaEclipse 35_ _-112x32 R/A	560	164.50	51.15	48.00	56.18	158.50	45.00	3.00	0.38	13.88	6.94
AlphaEclipse 35_ _-128x32 R/A	590	186.50	51.15	48.00	56.18	180.50	45.00	3.00	0.38	15.40	7.70
AlphaEclipse 35_ _-144x32 R/A	635	208.50	51.15	48.00	56.18	202.50	45.00	3.00	0.38	16.92	8.46

Figure 8: 11600000-19J AlphaEclipse 3500 Series B Sales Drawing (sheet 1 of 2)
Sign Dimensions and Current Requirements Table


For a larger version of this table, see Figure 10 on page 56
THIS OUTLINE IS OFFSET 3" FROM THE FAN HOUSINGS TO ALLOW PROPER SPACE AROUND THE FANS FOR VENTILATION.
BACK VIEW
"B"
"A"
14 TYP.
NOTES:
1) UNIT SHOWN IS AN ALPHA ECLIPSE3500-144x32
2) "x" SIZES THAT GET A FAN COVER PLATE.
ADAPTIVE
ALPHA ECLIPSE 3500 SERIES B SALES DRAWING
11600000-19
Released
2 of 2

ASSEMBLY MODEL NO	DIM "A"	DIM "B"	QTY OF FANS
AlphaEclipse 35 -3226 R/A	9.4	360.4	2
AlphaEclipse 35 -64x8 R/A	27.5	76.9	2
AlphaEclipse 35 -80x8 R/A	.9	.9	2
AlphaEclipse 35 -96x8 R/A	.9	.9	2
AlphaEclipse 35 -112x8 R/A	.9	.9	2
AlphaEclipse 35 -128x8 R/A	.9	.9	2
AlphaEclipse 35 -144x8 R/A	.9	.9	2
AlphaEclipse 35 -64x16 R/A	.9	.9	4
AlphaEclipse 35 -80x16 R/A	.9	.9	4
AlphaEclipse 35 -96x16 R/A	.9	.9	4
AlphaEclipse 35 -112x16 R/A	.9	.9	4
AlphaEclipse 35 -128x16 R/A	.9	.9	4
AlphaEclipse 35 -144x16 R/A	.9	.9	4
AlphaEclipse 35 -64x24 R/A	.4	.4	4
AlphaEclipse 35 -80x24 R/A	.4	.4	4
AlphaEclipse 35 -96x24 R/A	.4	.4	4
AlphaEclipse 35 -112x24 R/A	.4	.4	6
AlphaEclipse 35 -128x24 R/A	.4	.4	6
AlphaEclipse 35 -144x24 R/A	.4	.4	6
AlphaEclipse 35 -64x32 R/A	.4	.4	6
AlphaEclipse 35 -80x32 R/A	.4	.4	6
AlphaEclipse 35 -96x32 R/A	.4	.4	6
AlphaEclipse 35 -112x32 R/A	.4	.4	8
AlphaEclipse 35 -128x32 R/A	15.6	395.4	8
AlphaEclipse 35 -144x32 R/A	21.0	187.4	8

Figure 9: 11600000-19J AlphaEclipse 3500 Series B Sales Drawing (sheet 2 of 2)

ASSEMBLY MODEL NO	DIM "A"	DIM "B"	QTY OF FANS
AlphaEclipse 35_ _ -32x8 R/A	9.4	36.4	2
AlphaEclipse 35_ _ -64x8 R/A	27.5	76.9	2
AlphaEclipse 35_ _ -80x8 R/A	27.5	98.9	2
AlphaEclipse 35_ _ -96x8 R/A	27.5	120.9	2
AlphaEclipse 35_ _ -112x8 R/A	27.5	142.9	2
AlphaEclipse 35_ _ -128x8 R/A	27.5	164.9	2
AlphaEclipse 35_ _ -144x8 R/A	27.5	186.9	2
AlphaEclipse 35_ _ -64x16 R/A	21.0	76.9	2
AlphaEclipse 35_ _ -80x16 R/A	21.0	98.9	4
AlphaEclipse 35_ _ -96x16 R/A	21.0	120.9	4
AlphaEclipse 35_ _ -112x16 R/A	21.0	142.9	4
AlphaEclipse 35_ _ -128x16 R/A	21.0	164.9	4
AlphaEclipse 35_ _ -144x16 R/A	21.0	186.9	4
AlphaEclipse 35_ _ -64x24 R/A	21.0	77.4	4
AlphaEclipse 35_ _ -80x24 R/A	21.0	99.4	4
AlphaEclipse 35_ _ -96x24 R/A	21.0	121.4	4
AlphaEclipse 35_ _ -112x24 R/A	21.0	143.4	6
AlphaEclipse 35_ _ -128x24 R/A	21.0	165.4	6
AlphaEclipse 35_ _ -144x24 R/A	21.0	187.4	6
AlphaEclipse 35_ _ -64x32 R/A	21.0	77.4	4
AlphaEclipse 35_ _ -80x32 R/A	21.0	99.4	6
AlphaEclipse 35_ _ -96x32 R/A	21.0	121.4	6
AlphaEclipse 35_ _ -112x32 R/A	21.0	143.4	8
AlphaEclipse 35_ _ -128x32 R/A	21.0	165.4	8
AlphaEclipse 35_ _ -144x32 R/A	21.0	187.4	8

Figure 10: 11600000-19J AlphaEclipse 3500 Series B Sales Drawing (sheet 2 of 2)
Fan Spacing Table